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FFICIAL

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

The objectives of this Conference shall be: the advancement of the knowledge of design, construction, operation and management of water, wastewater systems, and stormwater 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, wastewater treatment facilities and stormwater treatment; and the promotion of water, wastewater, and stormwater system operator education and certification programs.

On the cover: Aerial Veiw of Lake Sakakawea. Photo provided by Melanie K. Goetz.

Southwest Water: Quenching the Thirst of a Developing Area

By Melanie K. Goetz, American Water Works Association and Hughes and Stuart

"Without quality water, the communities in southwest North Dakota would be limited in their growth and would not be able to meet the needs of the increase in population from oil and gas development. It would be complete turmoil! The Southwest Water Authority is responsible for the vision to provide the quantity and quality of water needed for southwest North Dakota to meet the needs of our growing communities." -Senator Rich Wardner

Water is essential to any economy and to life itself. Macroeconomic analyses reveal the direct connection between water and economic success, particularly driving agriculture, utilities, mining and energy production. But every sector of every economy, from local to the global, fundamentally relies on water resources. And inevitably, any interruption in the supply of water pulses through an economy like wind rippling across a North Dakota wheat field.

In short, water is money.

The EPA says it's hard to gauge the economic impact

of water because its value depends on a wide array of dimensions — the volume of water supplied, where and when it's supplied, the reliability of the source and, of course, the intrinsic quality of the water and its suitability to the application. Complicating these calculations is the uncertain reliability of tools needed to measure these variables — even if those tools are available and affordable.

Still, economists almost universally agree that water is critical to any economy ... even if they can't always affix a number to it.

North Dakotans, especially those in rural areas, look at water differently than perhaps those people living elsewhere in America. With less than a million people, North Dakota is probably the most rural of the 50 states: Nine out of every 10 acres is farmland. And North Dakota ranks first in U.S. production of spring and durum wheat. And despite the oil and gas influx, agriculture is still the state's #1 industry — one that requires quality water, and lots of it. It also must take into account the people, the very ones that make this northern state work.

Fortunately, North Dakota has plenty of surface water sourced from the Missouri River, but the groundwater can be undrinkable. Anyone familiar with the groundwater in southwest North Dakota knows all too well it's often full of minerals, often to an extent making it unsafe for human

consumption. Even livestock shy away from the ubiquitous contaminated well water. Farmers find it less than desirable for irrigation. But there's no stopping the resilient rural folk of southwest ND who have for decades hauled purified water into their homes for drinking and cooking.



Trenching pipe to further extend Southwest Water's distribution.

History of the Southwest Pipeline Project and Southwest Water Authority

In 1981, North Dakota's legislature authorized the initial design of today's Southwest Pipeline Project (SWPP). The SWPP was initially designed to accommodate 150 percent of the average annual flow rate of all but two of its cities, and 150 percent of all rural users within the project area for final design and construction. The project area included the area of North Dakota south and west of the Missouri River. (See project map.) The original project was intended to be a wholesale water supply system, only serving entities under contracts — communities, rural water systems, rural water cooperatives, industries and the like. The SWPP was never intended to provide direct service to individuals.

By 1985, the final design for the SWPP was completed, and construction began on the first contract the following spring. The North Dakota State Water Commission owns the project and manages construction contracts. Later, planners determined contract service to rural water systems could be provided more efficiently if their configuration was integrated into the overall project design. So, in 1991, the Legislative Assembly modified the project concept, empowering the State's Water Commission to integrate the project and to create the Southwest Water Authority (SWA). The newly created the SWA was tasked with collecting and coordinating rural signups, rural easements, providing customer service for rural water customers and collecting signup fees. In 1996, SWA was given specific authority to operate, manage and maintain the SWPP as an agent of the State Water Commission.

Thus, forward-thinking forefathers recognized the economic power of life-giving waters, and in piping high quality water to the residents and businesses driving southwest North Dakota's economic development.

Mary Massad, Manager/CEO of Southwest Water Authority and the person who oversees the massive project, says, "The population growth, extremely low unemployment, and new business development has put ND on the national map as the up-and-coming boom state. The SWPP's water makes it all work."

The Microeconomics of Water

That's the big picture. But equally compelling is a microeconomic look at the people who drive the number one, income-producing sector of North Dakota's economy – the people of the state's rural southwest.

Let me introduce you to the Knoells. For almost three decades, Karen and Jerry Knoell of Hazen, North Dakota, were buying five to six gallons of bottled water for their weekly drinking and cooking needs. Their well drew brackish, brown water laced with sodium and magnesium. Not so tasty. Not so healthy. They limited their well water use to washing dishes and showering. They financed the drilling of a second well, but it proved to have a very low water table and was not usable.

Jerry and Karen had been changing their home fixtures about every 10 years. High mineral deposits from the well water corroded the bathtubs, sinks and the water heater. Then, in 2013, the Knoells were connected to the Southwest Pipeline Project. From the first day they turned on the tap, their lives changed for the better. The Knoells, like so many other rural residents, believed SWA would eventually be their solution. And, it was.

"This water is a blessing," said Karen, "Everyone loves it. I'm so happy to have it. I've carried all my white clothes and all my laundry to the cleaners for years." But no more. And beyond the welcome lifestyle changes, high quality water is also saving them money on appliances, energy, travel, plumbing — virtually every aspect of the Knoells' lives.

Then there are the Knopiks. For nearly 10 years, southwest North Dakota residents Chris and Traci Knopik had to deal with orange-colored well water. Their bathtub, sinks, toilets were all stained brown, though not for lack of cleaning products or effort. White or light-colored clothes and linens were victimized. When cows won't drink your water, that's more than a clue. Nothing could successfully take the brown out of the water that came up from the two wells on their property. They hauled bottled water to their home just like other rural residents had been doing for years.



Construction of more water storage to meet growing demands.

The 250 range cows Chris used to maintain with his father didn't much care for the water, and they often simply refused to drink. But, the SWPP had not yet been connected in the area, and a third well was drilled. The water was still brown.

"Better suited for ice tea or coffee," says Chris.

One day, Chris and Traci traveled abroad to become parents, adopting two daughters from India and Ethiopia. On their journeys outside of the United States, the Knopiks discovered places much worse water quality conditions exist, even than on the plains of rural North Dakota. The reality of truly unsanitary water conditions brought a whole new perspective. Chris observed Ethiopians walking miles every day to haul unfiltered water from the same muddy streams where the cattle drank.

Finally, in 2014, the Knopiks became the first property owners in their rural community of about 2,500 to receive treated water from the pipeline ... and they were very excited to receive it.

"This water is similar to bottled spring water," Chris said. It's clear, it tastes great, it doesn't stain anything. We have constant pressure flow, compared to a well kicking in and out, so we really appreciate knowing we will always have a high quality water supply from now on."



Inside look at the construction of the water storage tank.

By 2014, about 4,300 additional miles of pipeline had been added, with nearly on 5,500 rural water customers poised to consume an estimated 2.5 billion gallons of SWA water in 2014. Naturally, that number is expected to increase. To date, SWA serves more than 58,000 southwest North Dakota residents in 32 communities with more than 5,350 farms, ranches, small businesses, 28 contract customers, 23 raw water customers, three crew camps, and two raw water depots for the oil and gas industry, and two other rural water systems. That translates into more than 2.3 billion gallons of quality water annually and growing.

Ms. Massad notes, "A high-profile, high-demand project such as the SWPP will eventually be completed, but our job here at Southwest Water Authority to manage operate and maintain the project will never be done. That's because we must maintain and continue to implement the ND Department of Health and Environmental Protection Agency's stringent drinking water standards, as well as continue to connect those who are still patiently waiting to receive quality water. It's not just a matter of the economic development of the southwest region, it's a matter of the overall economics of our region and the entire state."

On a global, national, or state level, as with the Southwest Pipeline Project, the reality is that the value of water is essential to a thriving economy. People's lives are literally transformed daily by the power of the SWPP water supply engine. Economic forecasts for North Dakota anticipate the state will thrive for many years to come due to water projects such as the SWPP – with or without the oil and gas boom.

Resources

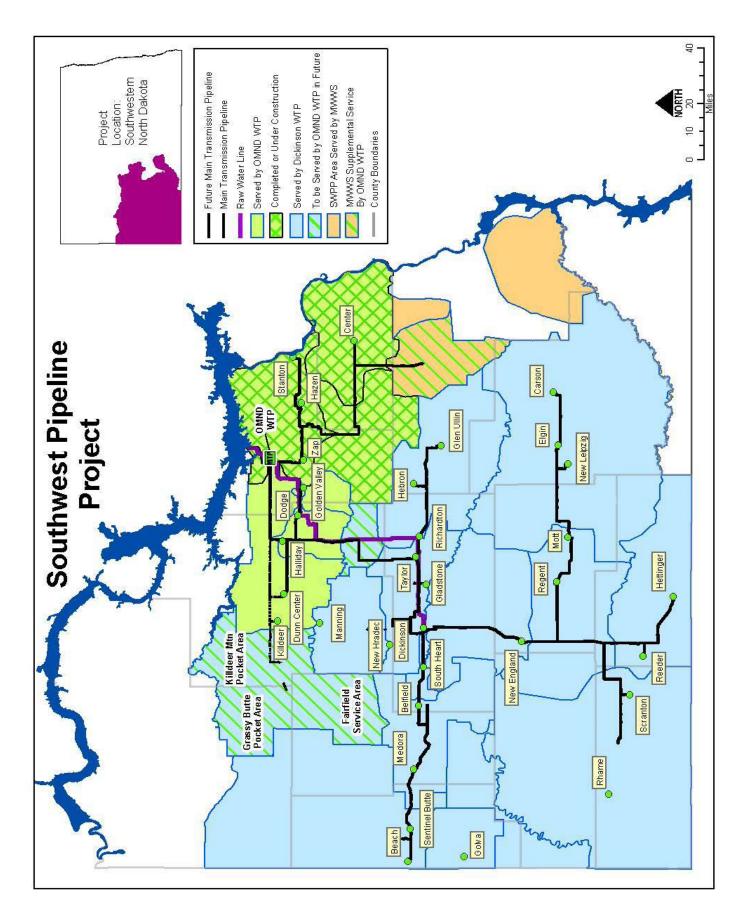
World Resource Institute, www.wri.org, August 2014. Environmental Protection Agency, U.S. website: http://water.epa.gov/action/importanceofwater/upload/IOW_Synthesis_Highlights, September 2014. Southwest Water Authority website: http://SWwater.org,

October, 2014.
Interview with Knopiks - September, 2013
Interview with Knoells - October, 2013
Interview with Mary Massad, Manager/CEO of the

Southwest Water Authority - October 2014. Quote from Senator Rich Wardner - October 31, 2014

About Melanie K. Goetz

Author of *Communicating Water's Value: Talking Points, Tips & Strategies*; Melanie specializes in helping utilities effectively communicate with their customers, elected officials, boards and stakeholders. With more than three decades of public relations experience, she has been a driving force behind community-supported rate increases, effective strategic marketing, public education, and award-winning outreach campaigns that changed behaviors. Melanie is an ongoing contributor to the *Journal American Water Works*, speaks internationally, has served on utility boards, and holds an MBA from Old Dominion University, Va.



Current service area and upcoming service areas for Southwest Water Authority in southwestern North Dakota

2014 Conference Photos

Thanks for attending













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Planning in Advance for Public Notification

LeeAnn Tillotson, Environmental Scientist, North Dakota Department of Health

Public notification is designed to protect public health. As a public water supplier, you are required by law to prepare and distribute public notification to consumers in the event of a drinking water violation. Other situations such as the flooding of a well, loss of pressure to the distribution system due to maintenance or breakage, and certain exceedances of the nitrate MCL in non community systems are a few examples of situations requiring public notice in the absence of an actual violation.

One of the best ways water systems can contribute to community health is to make sure people within a service area know about water quality issues and how to protect themselves from potential risks. Public notification of drinking water violations and other specific situations provides a way to educate the public, protect public health, build trust with consumers through sharing of information and establish an ongoing, positive relationship with your community. The greater the effort your water system makes to reach and inform everyone in your service area, the more they will trust your commitment to delivering safe water and protecting public health.

When a public water system receives a drinking water

violation, a public notice template is included in the violation letter from the North Dakota Department of Health Drinking Water Program. The template includes all mandatory statements and required language necessary to inform consumers about the situation that occurred. The mandatory statements and required language must not be changed or omitted without prior approval from the Drinking Water Program. The template does provide additional areas for the public water system to describe the event and the corrective actions that are planned or have taken place. Local contact information must also be inserted into the public notice to ensure that consumers questions are answered in a timely manner.

Public notification must be performed within a predetermined timeframe depending on the seriousness of the violation or situation. The timeframe may be as short as 24 hours for the most serious violations and up to a year in other circumstances. The required public notification timeframe is always clearly stated in the violation letter or other correspondence from the Drinking Water Program.







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Due to the short amount of time allowed to accomplish public notification in some situations, it makes good sense to do some advanced planning to allow accurate information to be distributed to affected consumers in an efficient and less stressful manner.

Prior to any situation that may require notification of the public an effort should be made to develop a plan that will be used to accomplish the task. Thought must be given to those who would best be able to help in the event of a drinking water violation or public water situation. This team will include individuals within the public water system administration office and the primacy agency (Drinking Water Program) and may include the local health department, emergency managers, printers or copying services, the media (newspaper, television and radio), and possibly alternative water suppliers.

Convey to all members of the team what actions may be necessary to complete public notification on short notice if it becomes necessary. Streamline your communication plan in advance by forming a relationship with the local media. Make sure your bottled water supplier understands your emergency plan and has its own plan for providing you with adequate quantities of water on short notice.

If your public water system sells water to consecutive users, you will want to have a discussion about how public notification will be accomplished prior to an event that requires notification of all users. The discussion should include whether you as the wholesaler will be responsible for notifying all users, or whether consecutive users will assist with the notification of consumers in their area of the distribution system.

In addition, consider in advance how follow-up information will be provided to consumers during correction of problems and perhaps again after the situation is resolved.

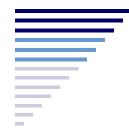
Providing additional information will demonstrate your system's commitment to public health.

Situations requiring public notice very often occur without warning. So, consider taking full advantage of the time that is available when all is going well. A bit of pre-planning for unexpected circumstances may ensure that correct and helpful information regarding drinking water situations and their resolution are distributed to the public efficiently and without delay. Any portion of a plan prepared now can prevent the additional burden of planning all aspects of a public notification during an actual unexpected event.

For further information regarding public notification pre-planning, please contact LeeAnn Tillotson at 701-328-5293.

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2014 Projects of the Year Awards

Presented by North Dakota American Public Works Association Chapter

The N.D. Chapter of the American Public Works Association is soliciting nominations for the "2015 Project of the Year" Awards.

Eligible are any public works project defined as the physical structures and facilities that are developed, owned, and maintained by public agencies to provide water, power, waste disposal, transportation, and similar public services in accordance with established public policy.

Criteria to be used in the selection process include demonstrating good construction techniques, safety, community relations, protecting the environment, unusual accomplishments, and additional conditions deemed important to the public works agency.

Award recipients and their engineer will receive an APWA "Project of the Year" recognition plaque presented at the Banquet of the N.D. Water and Pollution Control Conference scheduled to be held in Bismarck on October 7, 2015. Each project is eligible for nomination for the National APWA "Public Works - Project of the Year" competition. An award will be presented to projects serving communities of less than 5,000 and to communities serving more than 5,000 people. Nominations are due by May 4, 2015.

Submissions for consideration or questions concerning nominations should be addressed to:

Lance Meyer, PE
City of Minot
PO Box 5006
Minot, ND 58702-5006
701-857-4100 lance.meyer@minotnd.org



Wayne Gerszewski of AE₂S and James Anderson of Hillsboro



Karla Olson of Apex and Gary Zuroff of Dickinson

Because of rapid growth due to the current oil activity in the Dickinson area, the existing wastewater treatment facility was nearing its design hydraulic and organic loading capabilities. Alternative studies provided by Apex Engineering Group determined it was clear the best fit for the city was a mechanical treatment facility to provide flexibility for expansion and reliable treatment to meet stringent effluent discharge limits. The new, state-of-the-art, wastewater treatment and water reclamation facility will provide crucial infrastructure necessary for the treatment of wastewater for the existing and future population, not only within the city but also surrounding areas.

The City of Hillsboro, the City of Mayville, and Traill Rural Water District (TRWD) each found their respective water utilities facing challenges associated with water quantity and quality. With the help of Advanced Engineering and Environmental Services Inc., a strategic solution was developed for the City of Hillsboro to enter into a Joint Powers Agreement (JPA) with the City of Mayville and TRWD. The JPA allowed the three entities to remain autonomous while entering into a written agreement that contains an operational structure, identified responsibilities, and a financial agreement that benefits each entity. By working together to solve their varying challenges using a regional water concept and associated JPD, the three project entities were able to successfully acquire state and Federal grant dollars to pay for 75 percent of the total project cost.





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Minutes of the 86th Annual Meeting of the North Dakota Water and Pollution Control Conference

The 86th Annual Meeting of the North Dakota Water and Pollution Control Conference (NDWPCC) was held October 14, 15, and 16, 2014 at the Holiday Inn, Fargo, North Dakota. The annual meeting/convention was held jointly with the North Dakota Chapter of the American Public Works Association (NDCAPWA), the North Dakota Water Environment Association (NDWEA), the North Dakota Section of the American Water Works Association (NDAWWA) and the North Dakota Chapter of the North American Stormwater and Erosion Control Association (NDSECA-ND).

The city of Fargo sponsored a pre-conference Confined Space Safety Training workshop Monday, October 13, 2014, from 9:00 a.m. to 3:00 p.m. at the Fargo Public Safety Building and tours of Fargo Public Works and the Regional Drinking Water Storage and Pumping Facility at 2:00 p.m. The NDAWWA Education and Research Committee held a pre-conference meeting at 3:00 p.m. Monday in the Conference Room of the Holiday Inn. A service project at Rabanus Park was also scheduled from 4:00 p.m. to 7:00 p.m. on Monday.

Board meetings were held Tuesday, October 14, 2014 by NDAWWA at 7:30 a.m. in the Frontier Room, NDCAPWA at 8:00 a.m. in the Embassy A Room, NDWEA at 8:00 a.m. in the Embassy B Room, and NASECA-ND at 8:00 a.m. in the Prairie Room. Additional NDAWWA meetings were held following the joint board meeting. During the Tuesday meetings, the associations planned their business meetings, listened to committee reports, accepted volunteers for committees, and conducted other business, as needed. Association business meetings were held Tuesday, October 14 (NDAWWA), Wednesday, October 15 (NDWEA), and Thursday, October 16 (NDCAPWA and NDWPCC).

North Dakota Department of Health (NDDOH) operator certification exams were written Tuesday, October 14, 2014, from 7:30 a.m. to 11:30 a.m. in the Conference Room. The North Dakota Nutrient Reduction Strategy Point Source Workgroup meeting was held from 8:30 a.m. to 11:30 a.m. in the Director's Room. pH certification training was held from 9:00 a.m. to 11:00 a.m. in the Mezzanine Suite III. Registration opened at 8:00 a.m., Tuesday, October 14, 2014, with Patty Carman and Darlene Germain welcoming all attendees. A total of 420 pre-registered, with final attendance being 419.

The joint board of directors of the NDWPCC, NDCAPWA, NDWEA, NDAWWA, and NASECAND met at 9:30 a.m. Tuesday, October 14, 2014 in the Executive Room with NDWPCC President Dean Sletten calling the meeting to order at 9:36 a.m. The following board members and guests were in attendance: Mike Berg, Terry Boehm, Mike Brisben, Dustin Dale, Eric Dodds, Joe Ferguson, Rick Gillund, Fred Goetz, Jordan Grasser, Jeff Heintz, Jeff Hruby, Dan Jonnason, Barry Johnson, Murthy Kasi, Brenda Lennox, Wei Lin, Seth Lynne, Lance Meyer, Karla Olson, Melanie Parvey, Derrick Placek, Michael Quamme, Meredith Quinn, Dean Sletten, Matt Sperry, Deon Stockert, Larry Thelen, Greg Wavra, Adam Zach, Chad Zander, and Gary Zuroff.

President Sletten entertained a motion to dispense with reading of the minutes from the May 22, 2014 joint board meeting at the Seven Seas Hotel in Mandan and approve the minutes mailed to board members and published in the 2014 Conference issue of the *Official Bulletin*. Eric Dodds so moved. Dan Jonasson seconded, and the motion carried.

President Sletten called for the treasurer's report. Mike Brisben read the January 1, 2014 to September 30, 2014 NDWPCC financial report, which showed a net income of \$36,869.50 and total assets of \$136,760.88. President Sletten asked for any discussion. Jeff Heintz inquired about the large amount of undeposited funds. Mr. Brisben noted that the undeposited funds included the conference's PayPal account and registration fees that will be deposited after the annual meeting. President Sletten asked for any further discussion. Hearing none, President Sletten called for a motion to approve the financial report. Joe Ferguson so moved. Rick Gillund seconded; motion carried.

Next, President Sletten called for old business. Mr. Brisben reported that tentative dates had been reserved in 2016 at the Minot Holiday Inn should the joint boards choose to move the 2016 meeting from the Grand International. Michael Quamme asked how many rooms were available at the Holiday Inn. Mr. Brisben indicated there were 170 rooms and that he hoped to secure 125, and that he would look to reserve additional rooms throughout Minot. Lance Meyer noted that the convention center and food were superior at the Holiday Inn and moved to reserve the same dates in 2016. Eric Dodds seconded; motion carried.

Next, President Sletten asked for an update on tentative dates for 2019 in Bismarck. Mr. Brisben stated there currently were no changes and that he would know more in 2015. Mr. Brisben also noted that he preferred the Wednesday, Thursday, Friday venue if nothing changes.

Continuing with old business, President Sletten called for a report on the AWWA YP poster competition. Murthy Kasi reported there were six volunteers to be judges, and there would be nine posters. Mr. Kasi noted that the competition would be from 9:00 a.m. to 12:00 noon on Wednesday and that awards would be for the best water poster, the best wastewater poster, and the best overall poster. Wei Lin asked if competitors needed to be members of AWWA and WEF. Meredith Quinn noted that, for the drinking water track, membership was required to compete in the national competition and that she would provide AWWA membership forms on Wednesday.

President Sletten called for any other old business. Mr. Brisben asked that the joint boards consider an independent website for the conference. Ms. Quinn indicated that costs to maintain NDAWWA's website were approximately \$200 and asked if a joint website would be possible. Mr. Quamme noted that a separate website would be more functional. Ms. Quinn stated that Sarah Volk works with the NDAWWA website and would be a good resource. President Sletten tabled further discussion until January 2015 and asked to set up a committee to look into the website. Murthy Kasi, Michael Quamme, and Grey Wavra agreed to serve on the website committee.

Moving to new business, President Sletten asked for volunteers for the officers nominating committee. Mike Berg, Joe Ferguson, and Wei Lin agreed to announce the 2014/2015 slate of officers during the October 16, 2014 business meeting. Next, President Sletten asked for volunteers for the auditing committee. Mike Berg, Joe Ferguson, and Rick Gillund agreed to review the 2014 NDWPCC financial report prior to the January 2015 joint board meeting.

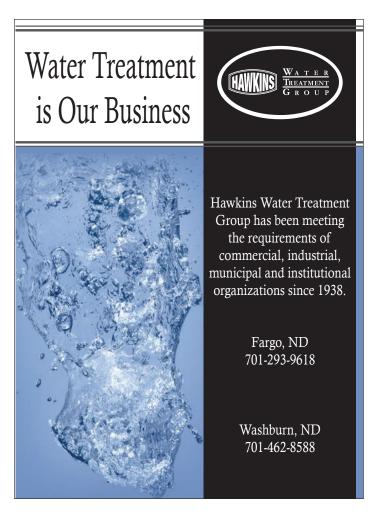
Next, President Sletten nominated Pete Bilstad and Ray Peterson from the city of Fargo for life membership and called for any other nominations. Dan Jonasson nominated Rodney Arness from Minot. Mr. Brisben noted that life membership will be voted on during the Thursday business meeting.

Mr. Brisben reported on 2014 conference activities which included a pre-conference safety workshop, NDWPCC service project, the annual golf tournament, facility tours, three concurrent sessions, breakfast poker, the exhibitor

program, and the awards banquet.

Next, President Sletten asked that attendees consider topics for 2015 spring training and the 2015 fall conference, and he asked that local arrangements discuss ideas for the Bismarck conference. Eric Dodds reported that the service project was a success, planting 56 trees and 75 shrubs. Mr. Dodds also noted that the planning committee featured 12 students and a handful of Young Professionals who worked with the Fargo Planning and Forestry Departments.

President Sletten called for any other new business. Mr. Kasi asked that the young professional committee meeting be added to the agenda and that a "Young Professional of the Year" award be presented out during the banquet. The YP of the year award has two nominees that are reviewed by five judges. Mr. Quamme asked that the conference cover the \$59 plague and \$25 set up fee. Ms. Quinn and Gary Zuroff indicated they thought the costs were, reasonable requests. Mr. Brisben brought to the board's attention that the Seven Seas no longer offered a lunch menu. President Sletten asked Mr. Brisben to check alternatives for the January meeting.



President Sletten called for a motion to close the meeting. Dan Jonasson so moved. Murthy Kasi seconded, and the meeting adjourned at 10:15 a.m.

Water samples for the 23rd annual water taste test, sponsored by NDAWWA, were accepted throughout the day Tuesday with nine public water systems entering. The Tuesday luncheon and NDAWWA business meeting were held in the Sterling and Crowne Rooms with NDAWWA Chair Jason Sorenson presiding. Fargo Deputy Mayor Dr. Tim Mahoney welcomed all attendees on behalf of the city, and Jessica Wagner, President, NDWEA, welcomed all on behalf of the joint board of directors. Brenda Lennox, Vice President, AWWA, provided an overview of AWWA activities.

The annual golf tournament teed off at 1:00 p.m. at the Village Green Golf Course in Moorhead, Minn. with Tom Welle handling local arrangements.

The Tuesday afternoon concurrent sessions opened at 1:30 p.m. with Michael Quamme, Associate Director, NDWPCC; Melanie Parvey, Secretary, NASECA-ND; and Dustin Scott, Director, NDCAPWA, moderating. The three concurrent sessions were held in Dakota Hall and Harvest Hall of the Holiday Inn.

Tuesday's topics included:

- "Minot Water Treatment Plant Hazard Mitigation Project" - Jerry Bents, Flood Control Design Lead and Allan Kemmit, Water Treatment Design Lead, Houston Engineering.
- "Well Failure and Repair" Richard Wagner, AE,S.
- "Algae Blooms and the Hazards of Cyanobacterial Toxins" Mike Trythall, Environmental Scientist, NDDOH.
- "Evaluation and Maintenance Techniques for Water Storage Facilities" - Doug Klamerus, NACE Level 2 Certified Coatings Inspector, and James Connor, NACE Level 3 Certified Coatings Inspector, Bolton & Menk, Inc.
- "Water Quality BMPs" Jeff Hruby, Water Resources Practice Leader, AE₂S, and Abbie Beaudry, Graduate Student, UND.
- "Omaha District Regulatory Briefing Clean Water Act Jurisdiction" - Patsy Crooke, Project Manager, U.S. Army Corps of Engineers.
- "West Fargo Wastewater Treatment Regionalization" - Eric Mattern, Jay Miller, Mitchell Swanson, and Kellen Grubb, NDSU AWWA/WEF Student Chapter.
- "Lake Kampeska Phosphorus Removal Demonstration Project" - Steve Quail, Senior Project Engineer, HDR Engineering, Inc.

- "Fargo-Moorhead Area Diversion Project Update" April Water, City Engineer, City of Fargo and Eric Dodds, Operations Manager, AE₂S.
- "Making the Fargo Effluent Reuse Facility Run" Jeff Hoff, System Control Manager, City of Fargo.
- "Bringing Your City Maps into the 21st Century" Amanda Kieffer, Engineer, and John Wirries, Engineer, KLJ.
- "Uncovering the Myths, Mayhem, and Magic of Storm Water Retention Ponds" - Brock Storrusten, Branch Manager, Moore Engineering, Inc.

The 3:00 p.m. break was held on the Pool Patio with all breaks sponsored by the business firms, vendors, and commercial suppliers listed in the program and on the poster located next to the registration table. A Tuesday night Student/YP reception was held at Buffalo Wild Wings from 6:00 p.m. to 8:00 p.m., and a Tuesday night buffet was held on the Pool Patio from 5:30 p.m. to 7:30 p.m.

Early setup for the 26th annual exhibitor program was from 4:00 p.m. to 10:00 p.m. on Tuesday in the Great Hall. Late setup was from 7:00 a.m. to 7:30 a.m. on Wednesday, October 15, 2014. Display hours were from 7:30 a.m. to 11:30 a.m., with 67 firms/suppliers reserving 78 booths. A buffet breakfast sponsored by the exhibitors was held in the Great Hall and on the Pool Patio from 8:00 a.m. to 10:00 a.m., along with a breakfast buffet poker game.

Poker hands were turned in at the NDWEA booth, with the winners announced at the Wednesday NDWEA luncheon and business meeting. Poker dealers included AE₂S, Apex Engineering Group, EJ Iron Works, Interstate Engineering, MVTL Laboratories, Red Flint Sand & Gravel, Sanitation Products, Stantec Consulting Services, and Visu-Sewer. The following business firms, suppliers, and associations participated in the exhibitor program: NDAWWA; NDCAPWA; NDWEA; NASECA-ND; NDRWSA; Thein Well, Co.; Brock White Co.; KLJ; Ulteig; Great Northern Environmental; Paxxo Inc.; Electric Pump Inc.; Ferguson Waterworks; EJ Iron Works; Construction Specialties; General Repair Services; Tech Sales Co.; Ackerman-Estvold; Utility Service Co.; Visu-Sewer, Inc.; Vessco, Inc.; Hawkins, Inc.; NDSU/ NDLTAP; Legette, Brashears & Graham, Inc.; Quality Flow Systems, Inc.; Infratech; Apex Engineering Group; AE₂S; Moore Engineering, Inc.; Advanced Drainage Systems; Sanitation Products, Inc.; S. Robert's Company; Fisher, Harris & Associates; Team Lab; Ess Brothers, Inc.; Northern Pipe Products; Interstate Engineering, Inc.; Stantec Consulting Service Inc.; Houston Engineering, Inc.; Wells Concrete; ABM Equipment & Supply; KLM Engineering, Inc.; HD Supply Waterworks; KodruEquipment, Inc.; Dakota Pump & Control, Inc.; Fargo Water Equipment/DSG; Bartlett & West, Inc.; Veit & Company, Inc.; DN Tanks; Red Flint Sand & Gravel, LLC; Larson Data Communications, Inc.; Treatment Resources, Inc.; Prinsco Inc.; Bolton & Menk, Inc.; Flexible Pipe Tool Company; SEH; Specialty Systems Products; Engineered Sales Co.; Granse/Trio Sales, LLC; SRF-Consulting Group; Integrated Process Solutions, Inc.; MVTL Laboratories, Inc.; Tnemec Co./Coating Resources, Inc.; Widseth Smith Nolting; ND Sewage Pump & Lift Station Service Co. Inc.; Sensus USA; and RMB Laboratories.

The North Dakota Operator Certification Advisory Committee met Wednesday, October, 15, 2014 at 9:00 a.m. in the Mezzanine Suite IV. The committee meets annually at the conference and, along with the NDDH, provides support for the North Dakota Water and Wastewater Operator Certification and Training Program.

Fargo municipal facilities tours were Monday afternoon and Tuesday morning with 13 attendees visiting the public works building and 13 visiting the regional drinking water storage and pumping facility.

The NDWEA luncheon and business meeting was held at 12:00 noon on the Pool Patio with NDWEA President Jessica Wagner presiding. Guest speaker Paul Bowen, Vice President, WEF, gave an update on WEF activities.

The Wednesday concurrent sessions started at 1:30 p.m. with Murthy Kasi, Trustee, NDAWWA; Don Tucker, Past President, NDWEA; and Terry Boehm, President, NDCAPWA moderating.

Wednesday's topics included:

- "A Historical Look at Municipal Ozone Gas Contacting in North America" - Jim Jackson, Director Municipal Sales, Mazzei Injector Company, LLC.
- "Contracting Certified Water and Wastewater Operators" Shawn Heinle, Environmental Scientist, NDDH.
- "What to Do When the Pipes Freeze" Brent Beechie, ND State Plumbing Board; Ward Heidbreder, ND Rural Water; Jeff Moberg, City of Tioga; and Greg Wavra, NDDOH.
- "Aquifer Storage and Recovery" Christopher Larson, Water Treatment Project Manager, SEH.
- "Dickinson New IFAS WWTP" Gary Zuroff, Public Works Director, City of Dickinson; and Karla Olson, Associate/Project Manager, Apex Engineering Group.
- "Evaluation of Anaerobic Digester Mixing Systems" - Susan Danzl, Project Manager, SEH; and Eric Miller, Graduate Student, NDSU.

- "Moorhead's Combined Nutrient, Odor & Corrosion Reduction" Seth Lynne, Associate, Apex Engineering Group.
- "Collection System Panel Discussion" Jessica Wagner, AE₂S; Craig Kubas, KLJ; and Gary Zuroff, City of Dickinson.
- "Technology and Tools for Managing Your Pavement" - Brian Simmons, Project Engineer; and Mark Schulz, CAD/AMS Coordinator, Bolton & Menk.
- "Hazard and Workplace Safety" Luke Lindberg, Safety Coordinator, City of Fargo; and Terry Rust, Industrial Pretreatment/Lab Coordinator, City of West Fargo.
- "How to Pump in Small Places" Ken Demmons, Senior Project Manager, HDR Engineering, Inc.
- "Stormwater Municipal Operations Panel" Chad Zander, City of West Fargo; Melanie Parvey, City of Grand Forks; David Tuan, City of Williston; Terry Halstengard, City of Bismarck; and Derrick Placek, BNI Coal, LTD.

Attendees met at 3:00 p.m. in the Pool Patio for an afternoon break.

A social hour was held on the Pool Patio prior to the awards banquet. The following companies graciously sponsored the social hour, door prizes, coffee breaks, and golf tournament: ABM Equipment & Supply, LLC; Ackerman-Estvold; AE₂S; Apex Engineering Group; Bartlett & West, Inc.; Bolton & Menk, Inc.; EJ Iron Works; Electric Pump, Inc.; Fargo Water Equipment/ DSG; Hawkins, Inc.; HD Supply Waterworks; Houston Engineering; Hughes Lift Station Service Inc.; Jet-Way Multiple Service, Inc.; KLJ; Killoran Trucking & Brokerage, Inc.; Moore Engineering, Inc.; MVTL Laboratories, Inc.; ND Sewage Pump and Lift Station Service Co.; Northern Pipe Products; SEH; Stantec Consulting Services; Team Lab; and Vessco, Inc.

The annual banquet and awards ceremony was held in the Great Hall with 243 members and guests in attendance. Mark Lindquist opened the awards ceremony by singing the national anthem. Next, Mr. Lindquist introduced the officers and dignitaries at the head table and asked Terry Rust to deliver the invocation.

Brenda Lennox, Vice President, AWWA, presented to Greg Wavra, Drinking Water Program Administrator, NDDOH, the George Warren Fuller Award and to Rodney Arness, City of Minot, the Operator Meritorious Award. Murthy Kasi, Trustee, NDAWWA, announced the winners of the poster competition and Young Professional of the year award. Dhritikshama Roy was the winner in the drinking water category, and Mohammad Enayet Hossain won the wastewater category and the overall competition.

This was the first year of the Young Professional of the year award which was awarded to Meredith Quinn, AE₂S. Next, Ms. Quinn announced the three finalists in the water taste test (Fargo, Mandan, and Valley City) with Fargo being this year's winner. Charlie Vein, President, AE₂S, drew the winners of the 13th annual Water for People raffle and announced that this year's raffle, sponsor donations, and mulligans raised a new high of \$9,210.

Next, Paul Bowen, Vice President, WEF, presented to Terry Rust, Past President, NDWEA, the Bedell Award.

Terry Boehm, President, NDCAPWA, announced the 2014 APWA project of the year awards with Hillsboro's new water treatment plant, designed by AE₂S, receiving the small community award and Dickinson's water reclamation Facility, designed by Apex Engineering Group, the large community award.

Mike Brisben, NDDOH, presented Operator of the Year Awards to Clay Kruger, Water Treatment Operator, City of Riverdale; Wayne Offerdahl, Wastewater Collection System Supervisor, City of Fargo; Lyle Quenzer, Water Treatment Operator, South Central Rural Water District; and Adam Thomas, Lead Water Plant Operator, City of Washburn. Mr. Brisben also announced that the team of Karla Olson, Jason Sorenson, and Tom Welle were the winners of the golf tournament.

The annual public works directors and city engineers meeting was held Thursday, October 16, 2014, at 7:30 a.m. in the Mezzanine Suite III.

The three Thursday morning concurrent sessions convened at 8:00 a.m., with Mike Berg, Trustee, NDAWWA; Jessica Wagner, President, NDWEA; and Jeff Hruby, Vice President, NASECA-ND moderating.

Thursday's topics included:

- "Stage 2 D/DBPR Road to Compliance Panel Discussion" Lydia Fewless, NDDOH; Keith Demke, City of Bismarck; Dave Christianson, Coal Creek Station; Steve Hanson, Southeast WUD; Steve Johnson and George Reck, Aquapure/City of Lisbon.
- "Revised Total Coliform Rule" Jeni Walsh, Environmental Scientist, NDDOH.
- "Design of an Integrated Membrane WTP to Treat Sulfates" Brian Bergantine, Operations Manager, AE₂S.
- "Water Treatment Operational Challenges Overcome" - Mark Peterson, City of Fargo; Joe Ferguson, City of Grand Forks; Nick Beste, AE₂S; and Steve Ahlschlager, Moore Engineering.
- "Nutrient Criteria Panel Discussion" Dallas Grossman, NDDOH; Mike Ell, NDDOH; Scott Schaefer,

AE₂S; and Wei Lin, NDSU.

- "Wastewater Discharge Permit Overview" Marty Haroldson, NDPDES Program Manager, NDDH.
- "Future Planning for the Fargo Wastewater Treatment Facility" - Jim Hausauer, Wastewater Utility Director, City of Fargo; and Seth Lynne, Associate, Apex Engineering Group.
- "Effluent Filters A Comparison of Old and New"
 Susan Danzl, Project Manager, SEH.
- "Non-Dispersibles" Karla Olson, Associate/ Project Manager, Apex Engineering Group.
- "Hauled Waste Challenges" Sarah Waldron, Environmental Scientist, NDDH
- "EPA Stormwater Update" Greg Davis, Storm Water Program Manager, EPA Region 8.
- "Minnewaukan Relocation" Eric Gilbertson, Project Manager, KLJ.
- "Upcoming Courses in Erosion Control-NDDOT/NDLTAP" Matthew Stone, Assistant Professor/ Construction Management and Engineering, NDSU.
- "Industrial Cost of Service Modeling in Grand Forks" Shawn Gaddie, AE₂S Nexus.
- "An Efficient Use of GIS for Stormwater Modeling in the Development of an Implementable CIP" Rich Thornton, Senior Project Manager, HDR Engineering, Inc

A break was held in the Pool Patio at 10:00 a.m.

The joint business meetings and luncheon of the NDCAPWA and NDWPCC were held at 12:15 p.m. with NDCAPWA President Terry Boehm and NDWPCC President Dean Sletten presiding. President Boehm called the NDCAPWA meeting to order and provided an update on APWA goals and accomplishments. The NDCAPWA meeting adjourned at 12:36 p.m.

President Sletten called the NDWPCC meeting to order at 12:37 p.m. As the first order of business, President Sletten called for a motion to dispense with the reading of the minutes from the 2013 annual meeting in Grand Forks and approve the minutes as published in the *Official Bulletin*, October-December 2013, Volume 101, Numbers 10-12. Tom Welle so moved. Terry Rust seconded, and the motion carried.



Rob Gravatt

Regional Manager

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Next, Mr. Brisben presented the 2014 treasurer's report, showing a net income of \$36,869.50 and total assets \$136,760.88. President Sletten called for a motion to approve the treasurer's report. Tracy Eslinger so moved. Mel Bullinger seconded, and the motion carried.

President Sletten called for a motion to dispense with reading of the resolutions and approve the resolutions as written and posted next to the registration table throughout the conference. Rick Gillund so moved. Greg Wayra seconded, and the motion carried.

Next, President Sletten nominated Pete Bilstad and Ray Peterson, City of Fargo; and Rodney Arness, City of Minot for life membership. President Sletten called for other nominations from the floor. Hearing none, President Sletten called for a motion to close nominations and the secretary be instructed to cast a unanimous ballot. Seth Lynne so moved. Tom Welle seconded, and the motion carried.

Next, President Sletten called for a report from the nominating committee. Mike Berg nominated Sarah Volk for incoming director and Jim Lennington for associate director and read the following slate of officers for 2014-2015:

Dan Jonasson, President
Seth Lynne, President-Elect
Joe Ferguson, Vice President
Tracy Eslinger, Director
Mike Berg, Director
Wei Lin, Director
Sarah Volk, Director
Jim Lennington, Associate Director
Mike Brisben, Secretary-Treasurer

President Sletten called for other nominations from the floor. Hearing none, President Sletten called for a motion to close nominations and the secretary be instructed to cast a unanimous ballot. Meredith Quinn so moved. Murthy Kasi seconded, and the motion carried.

Next, President Jonasson presented outgoing President Sletten the NDWPCC President's Service Award and thanked him for his hard work and dedication.

President Jonasson called for a motion to close the meeting. Tom Welle so moved. Murthy Kasi seconded, and the 86th annual meeting of the NDWPCC adjourned at 12:44 p.m., Thursday, October 16, 2014.

Respectfully submitted, Mike Brisben, Secretary-Treasurer

Municipal Services

- » Wastewater Systems
- » Water Systems
- » Streets and Storm Sewers
- » Wetland Delineation/Mitigation
- » Solid Waste/Landfills
- » Site Grading and Drainage Plans
- » Flood Control
- » Groundwater Studies
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abs

Operator of the Year Awards

Thank you for your hard work!

The North Dakota Department of Health, in an effort to encourage proper operation and maintenance of water and wastewater systems, instituted an annual operator awards program in 1981 at the annual North Dakota Water and Pollution Control Conference in Jamestown. This year marks the 34th anniversary of the awards program which has honored 184 operators and three military units (the U.S. Army Reserve, the N.D. Army National Guard, and the N.D. Air National Guard) for outstanding service.

The awards are based on:

- 1. Field and inspection reports.
- 2. Compliance with state and federal regulations.
- 3. Participation in the North Dakota Operator Training and Certification Program.
- 4. Participation in the North Dakota Water and Pollution Control Conference, North Dakota Chapter of the American Public Works Association, North Dakota Water Environmental Association, the North Dakota Section of the American Water Works Association, and the North Dakota Chapter of the North American Stormwater and Erosion Control Association.



Mike Brisben (left), Department of Health, congratulates Wayne Offerdahl, City of Fargo.

Wayne Offerdahl - City of Fargo

Wayne currently is the Wastewater Collection System Supervisor managing 64 sanitary lift stations in Fargo, as well as lift stations as far south as Oxbow and north as Harwood. Wayne is an active member of the conference and NDWEA. He served as the PWO Regional Council Representative for NDWEA and sits on the operations and safety committee. Wayne's wastewater utility director speaks highly of him, saying he is one of the most positive and enthusiastic workers and is well liked and respected. Wayne has been a certified Grade 04 Wastewater Treatment Operator since 1993.



Mike Brisben (left), Department of Health, congratulates Lyle Quenzer, South Central Regional Water District.

Lyle Quenzer - South Central Regional Water District

Lyle started in the water industry as the water treatment plant foreman for WEB Water in South Dakota before joining South Central RWD in May 2012, just as construction on the new South Central Emmons plant was nearing completion. Along with Doug Neibauer, Lyle was able to run the first gallon of water through the new three MGD plant. The Emmons plant uses ozone, steel plate settlers, and UF and RO filters to treat water from Lake Oahe. Lyle is married with three children and a granddaughter and spends his spare time raising cattle. He is a certified Grade 03 Water Treatment Operator.



Clay Kruger accepts his operator of the year award in Riverdale.

Clay Kruger - City of Riverdale

Clay grew up in the Belfield/Dickinson area graduating from Dickinson High. He moved to Billings, Mont. for six years before coming back to ND. Once back, he worked as an electrician for 4.5 years before going back to school in advanced electronics and avionics. He joined the City of Riverdale's maintenance department in 2005 and has operated the new water plant the past 4.5 years. Clay is a certified Grade 02 Water Treatment Operator.



Mike Brisben (left), Department of Health, congratulates Adam Thomas, City of Washburn

Adam Thomas - City of Washburn

Adam is a graduate of Washburn High School and the University of Mary. He started with the city as summer help in 2002 and was hired full time in 2010, taking over as lead water plant operator in the middle of a \$5 million retrofit of the old treatment plant to a new Ultrafiltration Membrane treatment system that went on line in 2011. Adam is a published sports writer covering high school sports and is serving his fifth year on the Washburn Park Board. He is a member of NDAWWA and is a certified Grade 03 Water Treatment Operator and Grade 02 Water Distribution, Wastewater Treatment, and Wastewater Collection Operator.

Past Recipients: Operator of the Year Awards

2013	Darrell Haman, Towner	2006	Kelly Berentson, Westhope	2001	Verdeen Backstrom,
	Don Hartman, Wildrose		Jerry Imhoff, Elgin		Minnewaukan
	Bradley Moser, Medina		Jay Haugen, Michigan		Jerome Broz, Fairmount
	Dale Neubauer, Fargo				Jack Knudson, Jamestown
		2005	Keith Olson, Harvey		Paul Lacina, Barnes Rural
2012	Alan Beyries, Garrison		Bob Weninger, Harvey		Water
	Frank Mosser, Maddock		Ken Blilie, Kindred		
	Sam Shutt, Minto		Del Kindelspire, LaMoure	2000	Tim Gjovig, Crosby
	Michael Tank, Medora		_		Jim Fixen, Alexander
	,	2004	Ron Hendrickson, Fargo		Ed Rekkedal, Arvilla
2011	Kent Bickler, R&T Water		Pete Bilstad, Fargo		Reuben Grosz, Bismarck
	Supply		Delvin Stemen, Burlington		
	Mike Houska, Grafton		Mark Paddock, Burlington	1999	Richard Wanner, Bismarck
	Rick Larson, Rugby		,		Tom Sieg, Anamoose
	William "Bill" McQuiston,	2003	Rick Anderson, Central		Ron Kleven, Grafton
	Williston		Plains Water District		Bill Emerson, Minot
	, , , , , , , , , , , , , , , , , , , ,		Keith Fulsebakke, Bottineau		
2010	Wade Hesch, Valley City		Don Horning, Zap	1998	Bill Link, Walsh Water Users
2010	Mark Peterson, Fargo		2 on 11018, 2wp		Ross Carter, Sherwood
	Donald Wald, Wahpeton	2002	Arlis Bischoff, Grafton		Bob French, Bismarck
	Keith Winson, Maddock	2002	Allan Kraft, Cavalier		Terry Leingang, Riverdale
	Keith Winson, Waddock		Doug Neibauer, South		5 6 6 6
2009	Dennis Larson, Park River		Central Regional Water	1997	Randy Seelig, Lisbon
2007	Ken Miskavige, Grafton		District		Skip Rapp, Dickinson
	Gary Neuberger, Beulah		Gary Zander, Mandan		Larry Thomas, Washburn
	Jason Sorenson, Minot		Gary Zander, Mandan		Gary Hager, Upper Souris
	Jason Solenson, Minot				Water Users
2008	Dill Cofuch Diamonds			Ya	THE CHOIS
2008	Bill Gefroh, Bismarck			1	



Steve Himmelspach, Mandan Richard Jacobson, Hazen

Roy Hayes, Hazen

Duane Golliet, Fargo Raymond Peterson, Fargo

Terry Rust, West Fargo

Water District

Jerome Olson, Traill Rural

2007

1997 Staff Members of the 348th Quartermaster Detachment (Water Purification) United States Army Reserve

> Staff Members of the 136th Quartermaster Battalion North Dakota Army National Guard

Staff Members of the 119th Civil Engineering Squadron North Dakota Air National Guard

Operators of Grand Forks-Traill Water Users

Randy Loeslie Mike Thompson Neil Breidenbach Ray Rakoczy

Operators of Agassiz Water Users Gus Cronquist Clark Cronquist

City of Grand Forks Water Treatment Plant Operators and Employees Brian Borden Jason Coyle Andy Job Greg Batzer Steven Bolton **David Brose** James Evenson John Ferguson Larry Hadland Erik Johnson, Jr. Richard Jurgens Rodney Kalis Ken Mather Robert Peterson Wayne Tunseth Dan Tupa Craig Lacher Steve Kolar Linda Schumacher Hazel Sletten

City of Grand Forks Water Distribution Operators

Ron Borden
Robert Deitz
Jackie Heidrich
David Kratochvil
Shirley Litchy
Mark Skow
Randy Thompson
Dwight Wurzbacher

Darrel Danielson
Perry Hart
Michael Klemisch
Dennis Kulas
John Scheffer
Peter Stoute
Donald Zhorela

City of Grand Forks Wastewater Operators (Storm and Wastewater Departments) Thomas Helle Kenneth Stevenson Peter Aamold Dennis Dunn Robert Fetsch Duane Fontaine Gary Goetz Dennis Gunderson Edward Haskell David Kresel Thomas Mikelson Carl Sherlock Lawrence Morrison Richard Winkels

1995 Brad Moser, Medina Les Sigette, McVille Don Olafson, Valley City Charles Jaszkowiak, Bismarck

1994 Gregg Christensen, Cass Rural Water Users Gordon Johnson, North Valley Water Assoc. Kerry Miller, Stanton Virgil Sund, Oakes

1993 Jeff Huwe, Columbus
Clay Pettys, Lake Metigoshe
Recreation Service Dept.
Richard Resell, Williston

1992 Dave Auch, Mandan
Joel Heitkamp, Southeast
Water Users
Michael Schneider, Jr.,
Strasburg
Joseph Leo Tupa,
Grand Forks

1991 Jim Moe, Devils Lake Lyle Mitzel, Wahpeton Joe Manning, Fargo Howard Plum, Maddock

1990 Keith Demke, Bismarck Rick Gillund, Enderlin Greg Nordsven, Killdeer Byron Thronson, Minot

1989 Ed Braunagel, Harvey
Greg Larson, R&T Water
Supply
Ingram Opp, New Salem
Dale Townsend, Carrington

1988 David Burckhard, Minot Ray Feltman, Minto Dale Hanson, Valley City Robert Job, Linton

1987 Don Erickson, Watford City Dave Johnson, Washburn Marvin Johnson, Jamestown Harland Peterson, Carrington

1986 Dan Reiter, Minot
Larry Thelen, South Central
Regional Water District
Bill Werle, Velva
Jerry Zander, Mandan

1985 Ray Foss, Hillsboro
Phil Furaus, Harvey
Francis Leintz, Lisbon
LaRay Reis, Lisbon
Dwight Wurzbacher,
Grand Forks

1984 Larry Boepple, Halliday Lester Carman, Bismarck Joe Roshau, Killdeer Beven Shaw, Williston

1983 Gary Armstrong, Rolla Cliff D'Heilly, Neche Virgil Houim, Rugby Bud Lund, Bismarck Aronld Stokkeland, Cooperstown

1982 Fred Clark, Grafton
Harry Hanks, Beulah
Don Larson, Gwinner
Bill Mendewald, Hankinson
John Muus, Grand Forks

1981 Marvin Baska, Mohall Alvin Carlson, Langdon Al Swanson, Jamestown Gene Thomas, McVille Casper Volk, Rugby



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ANNUAL OPERATOR TRAINING PROGRAM

The North Dakota Department of Health is pleased to announce the 55th Annual Professional Water and Wastewater Operator Training Program.

- 1. Objectives These classes will fulfill the continuing education credit (CEC) requirement for certified operators. You will receive 12 CECs for each session attended. Roll will be taken during the sessions to verify attendance. Expect to hear presentations regarding regulations and how to avoid mistakes that can lead to non-compliance for your facility. This will include general operation and maintenance topics. The courses, however, are not geared specifically to prepare operators for certification exams.
- 2. Registration Please preregister using the registration form on page 26, or complete your registration form online at http://www.ndhealth.gov/mf/ and mail or fax (701-328-6206) the printed copy. You may attend both water and wastewater sessions. Please indicate a second choice when selecting class sessions. Please make copies if more than one operator will be attending. A \$20.00 registration fee payable to the North Dakota Water and Pollution Control Conference (NDWPCC) is required. This covers attendance at one or more sessions. A confirmation letter will be sent and must be presented at the time of registration. If you need to reschedule or cancel, please call Patty Carman at 701-328-6628.
- 3. Membership A \$10.00 membership fee for the NDWPCC is optional. Membership includes the *Official Bulletin* and may be added to the total payment.
- 4. Certification exams A separate application form is required. An application form and directions are included; please fill out completely, or complete your application form online at http://www.ndhealth.gov/mf/ and mail to: N.D. Department of Health, 2639 E. Main Ave., Bismarck, ND 58501. Do not use previous applications. Signed applications must be received by the certification officer 15 DAYS before the examination date. Applications received after the deadline will be rejected. No walk-in exams will be allowed. Please make copies if more than one operator will be testing.

- A. A photograph identification card is required to take exams.
- B. A confirmation letter will be sent and must be presented at the time of testing.
- C. If you need to reschedule or cancel, please call Craig Bartholomay at 701-328-6626.
- D. Please bring your own calculator and pencils.
- E. Make your check for \$10.00, per exam, payable to the North Dakota Department of Health; do not mail. Make payment when you check in prior to writing exams.
- F. Results of the exams will be sent out after all of the training sessions are completed and after payment has been received for the exam(s).
- 5. Location All training sessions and certification exams will be held at the Environmental Training Center, 2639 East Main, Bismarck. Please park on the west or south side of the training center.
- 6. Chlorine Meter Training (for applicable water operators) This training is voluntary and will be offered prior to the water treatment and distribution sessions (see schedule). If you would like to participate, please provide your own chlorine meter. For more information call Bob Markhouse at 701-328-6623.
- 7. pH certification (for applicable wastewater operators) This will be offered in conjunction with the wastewater treatment training sessions (see schedule). For more information on the wastewater pH certification or to see if you should attend, call Luci Snowden at 701-328-5239.
- 8. Sponsors -
- N.D. Department of Health
- N.D. Water and Pollution Control Conference
- N.D. Chapter of the American Public Works Association
- N.D. Section of the American Water Works Association
- N.D. Water Environment Association
- 9. Special needs If you need special accommodations or more information, please call Mike Brisben at 701-328-6622.

10. A block of rooms at the Ramkota Hotel, 800 South 3rd Street (701-258-7700) has been booked for the operator training sessions. If you elect to use the Ramkota Hotel, the rates are \$74.70 (single) and \$94.70 (double) plus tax. Other hotels honoring state rates based on availability include: Comfort Inn 701-223-1911, Comfort Suites 701-223-4009, Fairfield Inn North 701-223-9077, Fairfield Inn South 701-223-9293, Expressway Inn 701-222-2900, Kelly Inn 701-223-8001, and Ramada Inn 701-258-7000.

11. Class Schedule:

Water Treatment and Distribution - in Bismarck.

March 2, 3, and 4, 2015 March 9, 10, and 11, 2015 March 23, 24, and 25, 2015 March 30, 31, and April 1, 2015

Check-in time for registration is 12:00 - 1:00 p.m. on March, 2, 9, 23, and 30. Exams are scheduled from 1:00 - 5:00 p.m. on March 4, 11, 25, and April 1.

Chlorine Meter Training - (for applicable water operators) March 2, 9, 23, and 30 at 10:00 a.m.

Wastewater Treatment and Collection - in Bismarck.

April 13, 14, and 15, 2015 April 20, 21, and 22, 2015

Check-in time for registration is 12:00 - 1:00 p.m. on April 13 and April 20. Exams are scheduled from 1:00 - 5:00 p.m. on April 15 and April 22.

pH Certification - (for applicable wastewater operators)

April 13 and 20 at 10:00 a.m.

12. Topics in Water Treatment and Distribution may include:

SDWA Update, Operator Certification, Overview of Water Treatment Rules, BacT Update, Stage I & II Disinfectants/ Disinfection By-products Rules, Filtration, Chlorine Meters and Measurements, Disinfection of Pipes and Reservoirs, Fire Hydrants, Groundwater Rule, Lead and Copper Rule, Math, Cross Connections, Pumps, System Security, Fluoridation, Wellhead/Source Water Protection, and others.

13. Topics in Wastewater Treatment and Collection may include:

Wastewater Basics, History of Wastewater Treatment, Troubleshooting, Physical Aspects of Lagoons, Wetland Systems, Microbiological Life in Ponds, Collection Systems, Operator Certification, Math, Discharge Permits, Lift Station Rehabilitation, Stormwater Update, Pond Construction, and others.

- 14. All operators working in public water treatment and/ or distribution systems which serve a population of 3,300 or less are eligible for reimbursement. Please pick up the appropriate forms during the training sessions. After payment to the North Dakota Water and Pollution Control Conference and/or state is made, you may apply for reimbursement.
- 15. The 2015 Registration Form and Application for Operator Certification exams can be located by clicking on calendar and publications on the Division of Municipal Facilities website at http://www.ndhealth.gov/mf/.

16. Questions:

Regarding exams, call Craig Bartholomay at 701-328-6626. Regarding training sessions, call Mike Brisben at 701-328-6622.

Regarding pH certification, call Luci Snowden at 701-328-5239

Regarding chlorine meter training, call Bob Markhouse at 701-328-6623.



2015 Registration 55th Annual Professional Water and Wastewater Operator Training Program

Name		(Please Print C	learly)				
Employer							
Employer's Address							
City, State, Zip Code							
Home Address							
City, State, Zip Code							
Daytime Telephone Number							
,							
Email Address							
Check below the sessions you wish to at FIRST 60 REGISTRANTS. A confirmation Training Center. Attendance will be required uring the sessions to verify attendance.	n letter must be presente	ed at the time of	check-in at the	<u>e Environmental</u>			
Do not apply for certification exams on th	is form (a separate appli	cation form is end	closed).				
Name of Session	Date of Session	1 st Choice	2 nd Choice				
Water Treatment and Distribution	March 2, 3, 4						
Water Treatment and Distribution	March 9, 10, 11						
Water Treatment and Distribution	March 23, 24, 25						
Water Treatment and Distribution	March 30, 31, April 1						
Wastewater Treatment and Collection	April 13, 14, 15						
Wastewater Treatment and Collection	April 20, 21, 22						
Manuals for sale (while supplies last):							
CSU Small Water System Operation and Maintenance (\$50.00) CSU Water Treatment Plant Operation, Vol.1 (\$50.00) CSU Water Treatment Plant Operation, Vol.2 (\$50.00) CSU Water Distribution System Operation and Maintenance (\$50.00) EPA Stabilization Pond Manual (\$12.00) CSU Wastewater Collection System Operation and Maintenance, Vol.1 (\$50.00) CSU Wastewater Collection System Operation and Maintenance, Vol.2 (\$50.00) CSU Small Wastewater System Operation and Maintenance, Vol.1 (\$50.00) CSU Small Wastewater System Operation and Maintenance, Vol.2 (\$50.00) Operations of Wastewater Treatment Plant Vol. 1 Operations of Wastewater Treatment Plant Vol. 2							
Membership in ND Water and Pollution Co (includes Official Bulletin - \$10.00)	ontrol Conference		Subtotal				
Registration Fee (covers attendance at one	or more sessions)			\$ 20.00			
Make check for training program, membe	rship, and manuals payal	ble to:	Total				
ND Water and Pollution Control Conferen 918 East Divide Avenue, 3 rd Floor Bismarck, ND 58501-1947	ce or NDWPCC	Date Received_ Amount Received	partment Use On ed#				



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Young Professionals at the 2014 North Dakota Water and Polution Control Conference

Thanks for Participating

North Dakota Water Young Professionals Committee (NDWYPC) organized several events during the 86th North Dakota Water and Pollution Control Conference (NDWPCC) in Fargo October 14-16, 2014. The first ever community service project was organized as a preconference event on October 13. Events on the first day of the conference (October 14) included student presentations and a Student and YP reception. Students from North Dakota State University (NDSU) presented their design project on wastewater treatment regionalization for the cities of Fargo and West Fargo. The Student and YP reception was held at Buffalo Wild Wings in south Fargo and was attended by dignitaries such as American Water Works Association (AWWA) Vice President Brenda Lennox and Water Environment Federation (WEF) President-Elect Paul T. Bowen. YP Events on the second day of the conference (October 15) started with a YP Committee meeting in the morning followed by the annual student poster contest. The YP Committee meeting was attended by the committee members, student representatives from NDSU, and the Vice President of AWWA, Brenda Lennox. Awards to the poster winners were presented during the conference awards banquet.

Community Service Project – Giving Back to the NDWPCC Host Community

The NDWPC successfully organized the first ever community service project as part of the NDWPCC conference. The goal of the service project was to help make Rabanus Park and the associated stormwater pond (one of Fargo's largest basins) more neighborhood friendly and aesthetically pleasing, while continually serving the community as a fully functioning stormwater detention basin. Students from NDSU, YPs from various consulting firms, experienced professionals, regulators, and the City of Fargo staff took part in planting trees and shrubs in a designated area of the park. After planting more than 50 trees and 100 shrubs in a few hours of work, the volunteers celebrated with a barbeque and a social near the park. It was estimated that more than 50 volunteers participated in this event.

YP Poster Contest

The poster contest was organized by the NDWPC with strong support from the conference organizers. The poster session was organized as an opportunity for students and YPs to present their design and research works in the water and wastewater fields to fellow section members. The event showcased 10 posters with research in water and wastewater treatment, surface water quality, and water resources management. Judges this year included Dean Sletten with Moore Engineering, Inc., Dustin Dale with Advanced Engineering and Environmental Services, Inc., Troy Hall with the City of Fargo water treatment plant, Don Tucker with the City of Fargo wastewater treatment plant, and Paul Bowen with WEF. Three different categories were identified: top three posters for the overall contest, top poster in the drinking water category, and top poster in the wastewater category. The overall poster winners were: first place - Mohammad Enayet Hussain, second place - Chaipon Juntawang and third place -Dhriti Roy. In addition, Mohammad won the top poster in the wastewater category, and Dhriti won the top poster in the drinking water category. All three winners are graduate students at NDSU. Mohammad, the winner of wastewater category will receive a \$100 cash prize from the N.D. Water Environment Association (WEA). Dhriti, the winner of drinking water category will receive a scholarship of up to \$1,500 to cover her trip expenses to present her poster at AWWA's Annual Conference and Exhibition (ACE15) in Anaheim, Calif. in June 2015. Summary articles of all these winning posters and two other participants are presented in the following pages.



(Left to right) Chaipon Juntawang, Mohammad Enayet Hossain, Dhriti Roy, and Murthy Kasi.

Iron Cross-linked Biopolymer for Aqueous Phosphate Removal

By: Mohammad Enayet Hossain, Cody Rittl, and Achintya N. Bezbaruah, North Dakota State Univeristy

This work was presented during the Young Professionals Poster Competition at the 86th North Dakota Water & Pollution Control Conference in Fargo, N.D.. Mohammad Hossain won the award in the Wastewater Treatment Track and will receive a \$100 cash prize from the North Dakota Water Environment Association. He also won first place in the overall poster contest.

Phosphorus (P) is vitally important for the growth of plants and microorganisms in terrestrial ecosystems. However, when excess phosphorus in terrestrial ecosystems finds its way into aquatic bodies, it becomes a problem there. Excess phosphorus triggers overgrowth of algae and plant species that finally leads to eutrophication. On the other hand, phosphorus is a nonrenewable resource and a recent assessment brought it to the fore that natural phosphate (PO43-) deposits will last for approximately 60-240 years. In this research work, novel iron containing alginate (MCA) beads were successfully synthesized and subsequently used for aqueous phosphate removal (Figure 1). The product is patented by North Dakota State University (http://www.ndsuresearchfoundation.org/ rft419). A series of batch experiments were conducted with the FCA beads to determine the feasibility of using them in eutrophic lakes reclamation.

Batch experiments were conducted with wet (fresh) beads (0.1181 gm dry weight) using three different concentrations of phosphate (5, 50 and 100 mg PO43--P/L). About 94% phosphate was removed in 6 h from the aqueous solution by wet beads having an initial phosphate concentration of 5 mg PO43--P/L. With 50 mg PO43--P/L, the beads were found to remove only ~41% in 6 but achieved 89% phosphate removal in 96 h. A lower concentration (100 µg PO43--P/L) was also selected to get the insights into the kinetics of removal at an environmentally relevant PO43--P concentrations found in eutrophic lakes (Figure 2). No change in phosphate removal was observed in the presence of Cl-, HCO3-, SO42-, NO3- and natural organic matter (NOM).

To investigate the feasibility of using these FCA beads in real life situation (e.g., in eutrophic lakes), "pouch experiments" were conducted in two conditions, namely shaking and static where MCA beads were introduced into the water in pouches. From the "pouch studies" conducted, the bagged beads in pouches were found to work almost as well as the free loose beads in shaking condition. In 24 h, bagged beads removed ~58% phosphate from the solution whereas loose beads removed ~60% phosphate. However, in static condition there has been a significant decrease

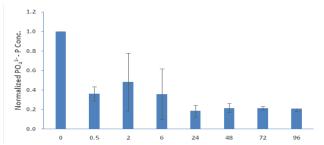
in phosphate removal by FCA beads. Bagged FCA beads removed ~15% phosphate from the phosphate-spiked solution whereas the loose beads removed ~17% phosphate from the solution. Of course, in lake condition, there will be a lot of turbulence that will reduce the mass transfer resistance enabling the FCA beads perform better.

The successful sorption of phosphate by FCA beads is expected to have enormous implications for nutrient removal and recovery. From the "pouch studies" results it can be concluded that the MCA beads hold great promise for use in the reclamation of eutrophic lakes. The beads presented in this research are a patented product. Additional research is required to find out the exact mechanism of phosphate removal and the feasibility of using these FCA beads in soils.



Figure 1 (left) Enhanced photo to show size of beads.

Figure 2 (below) Normalized PO₄ versus time



Mr. Mohammad Enayet Hossain is a third-year graduate student (PhD) in the Environmental and Conservation Sciences in Civil and Environmental Engineering at North Dakota State University (NDSU). He is originally from Bangladesh where he worked as a faculty member in the Department of Soil, Water and Environment at the University of Dhaka and in the Department of Soil Science at the University of Chittagong. Mr. Hossain holds a Bachelor's Degree in Soil, Water and Environment and a Master's Degree in Soil Science from the University of Dhaka. He has achieved numerous awards in his career. He is the recipient of SWED-DU Trust Gold Medal for his academic excellence. He is also a NDWRRI fellow. He also received Pre-graduate Scholarship, Outstanding Academic Performance Award, Imamul Huq Stipend, SWED-DU Trust stipend, Dr. S.A. Momen Memorial Scholarship, Abul Kashem Haider Education Development Scholarship and Post-graduate Government Scholarship. The research presented here is ongoing and supported with funds from National Science Foundation (Grant # CMMI-1125674) and North Dakota Department of Commerce (PI for both grants is Bezbaruah).

Delaying Fouling Condition By Aerobic Cell Entrapment-Membrane Bioreactor (AE-MBR)

By: Chaipon Juntawant and Eakalak Khan, North Dakota State University; Chiwat Rongsayamanot, Prince of Songkla University, Thailand.

Membrane bioreactor (MBR) has been known for high efficiency in removing a wide range of contaminants (organic matter, nutrient, and emerging pollutants). Membrane pore blocking due to accumulation of thick sludge cake on the membrane surface was often found to be a main cause of membrane fouling in MBR. Membrane fouling is a main operational problem which seriously limits applications of MBR because of high chemical costs and high energy consumption associated with membrane cleaning. Cell entrapment technique has been applied in a field of biological wastewater treatment to particularly prevent washout of active microorganisms. Moreover, entrapped cells offer several advantages over suspended cells including continuous cell regeneration, easier separation from supernatant, and more tolerance from toxic substances. This study attempted to take advantage of entrapped cells in order to reduce membrane fouling and make MBR more cost effective.

Laboratory-scale suspended-cells-based MBR (AS-MBR) and entrapped-cells-based MBR (AE-MBR) were set up identically and seeded by mixed liquor from a municipal wastewater treatment plant and entrapped mixed liquor, respectively (Figure 1). The reactors were made of fiber glass which consists of two compartments: (a) bioreactor (7 L) and (b) membrane (3 L). The membrane compartment contained polyvinylidene fluoride (PVDF) HF module with a nominal pore size of 0.1 µm and a total effective filtration area of 0.047 m2 (GE Water and Power, CA). The reactors were fed with synthetic wastewater and operated under an aerobic condition. Operational conditions are summarized in Table 1.

Permeate was collected weekly from the reactors during membrane filtration to investigate soluble organic matter removal. Extraction of bound extracellular polymeric substances (bEPS) and soluble microbial products (SMPs) from the mixed liquor was performed by heating at 80°C. Protein and carbohydrate contents in EPS and SMP were quantified. Permeate flux and transmembrane pressure (TMP) were monitored during the operation in order to investigate fouling condition. Under 1 day hydraulic retention time, a constant permeate flux at 10.63 L/m2-h (LMH) was maintained through 15 minutes back-flushing and air scouring for every 3 hours. Chemical cleaning with sodium hypochlorite and citric acid solutions was applied whenever TMP reached 55 kPa.

Results showed that AS-MBR and AE-MBR removed soluble chemical oxygen demand at comparable levels. Figures 2 and 3 show that AE-MBR produced less SMPs and bEPS than AS-MBR (29 - 32% less carbohydrate and 57 - 83% less protein in SMPs; 20 – 23% less carbohydrate and 76 – 81% less protein in bEPS). The rate of TMP increase of AS-MBR was higher than AE-MBR under the same permeate flux. AE-MBR had longer operation time than AS-MBR until membrane chemical cleaning was required. After the chemical cleaning, AS-MBR was operated under higher TMP than AE-MBR implying more irreversible foulant accumulated in AS-MBR (Figure 4). This study demonstrated less membrane fouling in AE-MBR compared with AS-MBR. AE-MBR was proposed as new design of MBR which is likely more cost-effective than conventional suspended-cells-based-MBR as result of less membrane fouling and in turn longer life span of

Mr. Chaipon Juntawang is a student in the Environmental and Conservation Sciences Program, NDSU under the supervision of Professor Eakalak Khan and co-guidance of Dr. Chaiwat Rongsayamanont. Mr. Chaipon Juntawang is working for the Ministry of Natural Resources and Environment of Thailand and received a scholarship from the Royal Thai Government to pursue his study in USA. He received his bachelor and master degrees in environmental engineering from Chiang Mai University, Thailand. The research work presented is part of Mr. Juntawang's Ph.D. dissertation.

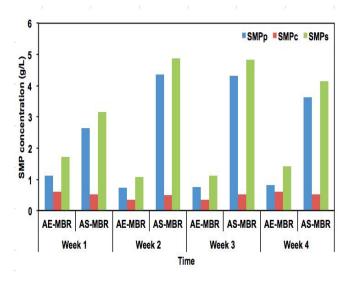


Figure 2. Protein and carbohydrate contents in SMPs from AE-MBR and AS-MBR.

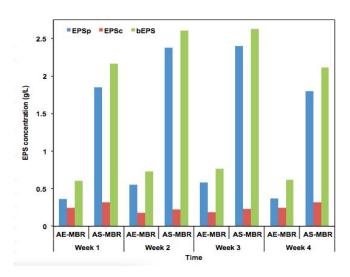


Figure 3. Protein and carbohydrate contents in bEPS from AE-MBR and AS-MBR.

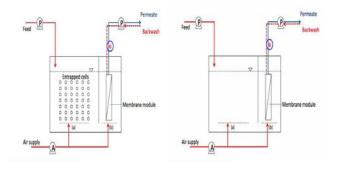
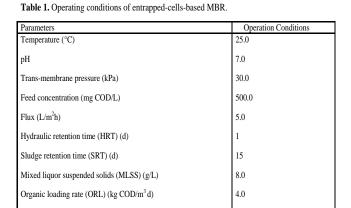


Figure 1. Schematic diagram of entrapped-cells-based MBR (AE-MBR, left) and suspended-cell-based MBR (AS-MBR, right).



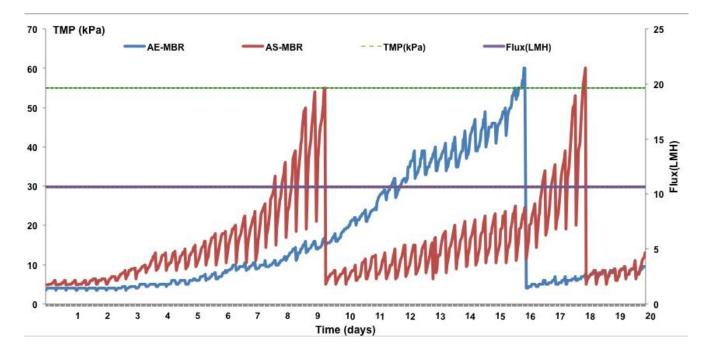


Figure 4. Permeate flux and transmembrane pressure monitoring for AE-MBR and AS-MBR.

Abundance and Activity of Ammonia Oxidizing Archaea in Drinking Plants and Distribution Systems

By Dhriti Roy, John McEvoy, Eakalak Khan North Dakota State University; Dan Overmoe Mayville Water Treatment Plant; Kristorfer Knutson Moorhead Public Service; and Murthy Kasi Moore Engeering

Nitrification is a widespread issue in drinking water distribution systems. Excess ammonia concentrations promote nitrification in the distribution systems, which is undesirable. From the perspective of regulatory compliance, a loss of the disinfectant residual is the most critical consequence of nitrification in the distribution systems.

The ammonia oxidation, the first step in nitrification, is performed by ammonia-oxidizing archaea (AOA) and bacteria (AOB). The recent studies have identified AOA as the main contributor to nitrification. The presence of AOA in the water treatment system (before and in the filter) may be beneficial for the removal of ammonia; however, their abundance and activity in the distribution system may lead to a loss of disinfectant residuals. It has been shown that distribution systems have AOA, but it is unclear whether their presence has any relationships with the type and level of disinfection particularly chlorine and chloramine. Water treatment plants in ND typically use chlorine and chloramine as secondary disinfectants to maintain disinfectant residuals in the distribution systems. No research has been conducted so far to compare the abundance and activity of AOA between chlorinated and chloraminated systems.

Dhriti collected water and biofilm samples once a month for a one-year period in three different water treatment plants (WTP) after various treatment processes: Mayville, N.D., Cooperstown, N.D. and Moorhead, Minn. Mayville WTP and Cooperstown WTP use chlorine as disinfectant and both have ammonia in their source water, whereas Moorhead WTP uses chloramine as disinfectant. Therefore, presence of chloramines is expected in the distribution systems for all three cities. She also collected water samples within the distribution systems in these three cities with sampling locations close to and far from the WTPs to represent various water age scenarios.

At the microbiological level, ammonia oxidation (or the first step in nitrification) by AOA and AOB is carried out through the release of necessary enzymes. Presence of a specific type of gene, amoA within AOA and AOB is responsible for the release of these important enzymes. Molecular and microbiological studies can identify which organism this gene in a sample belongs to, AOA or AOB. Therefore, DNA was extracted from the water and biofilm samples to conduct molecular and microbiological studies. Identifying the number of these genes can help in quantifying the numbers of AOA and AOB in water

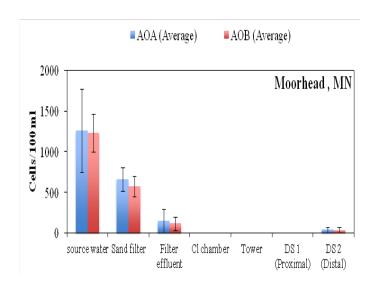
samples in the treatment plants and the distribution systems. Quantitative polymerase chain reaction (qPCR), a molecular technique, was used to determine the absolute quantity of the amoA gene (Figure 1a-1e). While the above techniques can detect the presence and identify the quantity of each organism, they do not reveal which organism is responsible for ammonia oxidation. Another microbiological technique DNA-stable isotope probing (SIP), was used to determine if AOA cells contributed to ammonia removal.

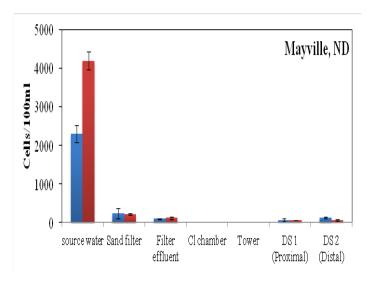
The study showed the presence of AOA amoA in all three WTPs regardless of their disinfection process. In some cases, amoA corresponding to AOA outnumbered the amoA corresponding to AOB (Figure 2). So far, the results showed that the AOA amoA were higher in warm periods (March-September) than cold periods (October–February), but the quantity was less in the distribution systems than in the treatment plants.

The study provided the first comprehensive insight into the key ammonia oxidizing groups in full-scale WTPs based on the type of disinfection process. This first-time detection of AOA in both chlorinated and chloraminated distribution systems opens the scope to do more research in the nitrification process within the engineered systems. Although our current results showed the presence of AOA in both chlorinated and chloraminated, further investigation is needed to confirm the role of AOA in the ammonia conversion process in the distribution system. The DNA-SIP study is ongoing and will help us in understanding the role of AOA in ammonia oxidation within engineered systems.

It is important to understand the role of AOA in chlorinated and chloraminated distribution system in WTPs. An ongoing laboratory-based incubation study has been conducted to see the direct effect of AOA present in chlorinated and chloraminated water. The current research is at the preliminary stages and confined to the laboratory scale involving the use of expensive molecular tools. Future research and pilot scale experiments should focus on understanding the kinetics and determining the kinetic constants that will help in a better design and operation of water treatment facilities.

Dhriti Roy is a PhD student in the Environmental and Conservation Sciences program at North Dakota State University, Fargo, N.D. She received her Master's degree in Marine and Environmental Biology from Nicholls State University, Thibodaux, LA and her Bachelor's degree in Botany from Kalyani University, India. Her doctoral dissertation research is focused on understanding nitrification process by Ammonia oxidizing Archaea in engineered systems.





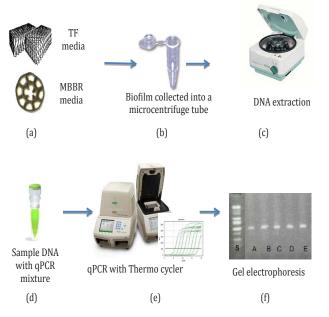


Figure 1. (above) Schematic of (a) & (b) sample collection, (c) DNA extraction, (d) & (e) qPCR protocol and (f) the results from gel electrophoresis. Gel electrophoresis shows DNA fragments from samples A, B, C, D and E. The location of these DNA fragments are compared with the bands on standard (S in Figure 1f) to confirm the presence of *amoA*.

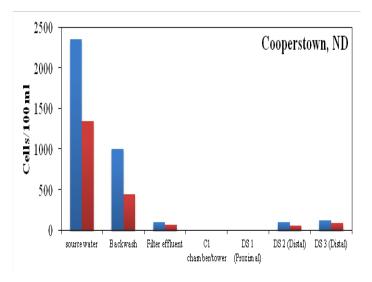


Figure 2 The data are the average of qPCR results for each sampling point found in Moorhead, Minn. for March–July , Mayville, N.D. from March-July and Cooperstown, N.D. for July only.

Getting to Know the Chair of the North Dakota Young Professionals:

Murthy Kasi



Murthy Kasi of Moore Enginieering

- Murthy Kasi received his
 Bachelor's degree in Civil
 Engineering from Andhra
 University, India, Master's degree
 in Environmental Engineering
 from South Dakota State
 University, Brookings, South
 Dakota, and Doctoral degree in
 Civil Engineering from North
 Dakota State University, Fargo,
 North Dakota.
- Please explain the following regarding your current employment: employer, position, job duties (area of expertise, field of interest, focus area, etc.)

 I am currently working as a project engineer with Moore Engineering, Inc. in West Fargo, N.D. My works involves designing water and wastewater treatment processes and water reuse facilities; and modeling of water distribution systems, wastewater treatment systems, and receiving water quality. My areas of interests are nutrient removal and recovery, membrane treatment in water and wastewater treatment, and bioremediation of emerging contaminants.
- When did you join AWWA? How and why did you become involved in AWWA? I joined AWWA in 2001 as a student member to learn what actually happens in the water industry. Credit goes to student chapter advisors during my Masters (Dr. Christopher Schmit) and Doctoral (Dr. Wei Lin) studies for their strong motivation and encouragement to join and take leadership roles.
- What are your current roles within AWWA? What is your position in those roles?

 I am currently a Trustee on the Board of AWWA North Dakota Section and the Chair for North Dakota Water Young Professionals (ND WYP) Committee. My roles as a Trustee are to support the Section in reviewing budget, planning expenditures, and acting as a liaison between the Section and the YP Committee. As the Chair for the YP Committee, I serve as the central contact person to the Students, young professionals, boards of North Dakota American Water Works Association (ND AWWA) and North Dakota Water Environment Association (ND WEA), and other professionals in the environmental field, thereby bringing a distinct identification to students and YPs in the water industry.

- What is your motivation to be involved in professional organizations and committees? My main motivation is the opportunity to learn and stay informed about the latest technology and regulations while being involved in the group activities and leadership roles. In addition, being involved in the committees has helped me connect with various professionals in the water industry across the country, which further broadened my understanding of water.
- As the first Chair of the new ND WYP committee, what are your goals starting out?

 My major goal is to make ND WYP noted among the professionals and public in North Dakota as well as in the rest of the country as an upcoming and energetic group, which will encourage and attract new generations to take part in this respectful profession that strives to provide a clean and safe environment to the society.
- If you could tell someone only one thing about the water industry, what would it be?

 As the saying goes "prevention is better than cure", and the water industry is such a profession that has been continuously striving hard to protect the public health and prevent illness by providing safe and hygienic conditions, thereby helping the community to reduce the struggle and expense from medical treatment.
- What is one misconception you think the public has about the water industry?
 Public sees water industry as a black box, where "dirty" water is put in and "clean" water is taken out. This lack of understanding of the industry is not only diminishing the respect toward that industry, but also the value of the product ("clean" water) in the eyes of the consumer (public).
- How has your involvement in AWWA helped to grow or advance your career?

 AWWA has been a great resource for developing my knowledge base in the industry with its publications, involvement in various committees, and technical conferences and networking with experts in the water industry. Involvement in AWWA has given an easy accessibility to all these resources, which has innately developed my professional skills and laid a strong foundation for a long and successful career in the future years.



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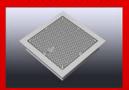
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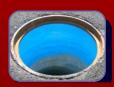
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Arthur Sidney Bedell Award Winner

Congratulations Terry Rust!

Young Professional of the Year Congratulations Meredith Quinn!



Paul Bowen of the Water Environment Federation (left) congratulates Terry Rust of the City of West Fargo (right)

Arthur Sidney Bedell Award winner - Terry Rust The Bedell Award was established to acknowledge extraordinary personal service to a member association. The award is named for Arthur Sidney Bedell, the second president of the Federation, who exemplified its purpose by his long devotion and service to the New York Water Environment Association.

Terry Rust is an active member on the North Dakota Water Environment Association (NDWEA) and the North Dakota Water & Pollution Control Conference (NDWPCC). He has given numerous presentations at the NDWPCC. He is a past president of the NDWEA and the NDWPCC. He has been on the NDWEA Operations and Safety Committee since 1995 and is a past Professional Wastewater Operator representative. He is a certified wastewater collections operator and wastewater treatment plant operator. He currently works for the City of West Fargo managing the City of West Fargo wastewater lab, wastewater treatment plant and the Industrial Pretreatment Program.



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Meredith Quinn (right) receives the Young Professional of the Year award from the Chair of the North Dakota Young Professionals Committee, Murthy Kasi (left)

Meredith Quinn has been named the Young Professional of the Year by the North Dakota Water Young Professionals Committee (NDWYP). She received the award at the North Dakota Water and Pollution Control Conference (NDWPCC) in Fargo. Meredith has held and presently holds positions of leadership in ND American Water Works Association (AWWA) and AWWA YP of North Dakota. She has strived for the benefit and promotion of involvement of students and young professionals in the water industry. Her contributions have been greatly recognized by the AWWA, and she was awarded the George Warren Fuller Award in 2012. Meredith Quinn is a project engineer with Advanced Engineering and Environmental Services, Inc.

The Young Professional of the Year Award was introduced by the NDWYP in 2014 to recognize the contributions of a young professional in the state of North Dakota whose service and achievements are exceptional for their years of service. The award is given annually to one young professional member of an organization active in the NDWPCC. YPs can be nominated by their fellow members of the NDWPCC organizations for this award. Nominees are judged based on their demonstrated commitment to the organization by participation in professional meetings, committees, events, and activities, and who provide a positive service to the community and profession by way of good fellowship, leadership, and commitment. For more details on this award, please contact Murthy Kasi at mkasi@mooreengineeringinc.com.

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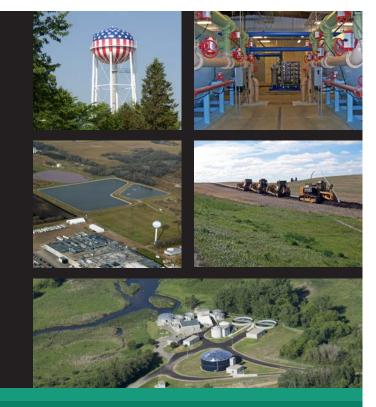
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George Warren Fuller Award Recipient

Greg Wavra is the 2014 recipient of the American Water Works Association's (AWWA) George Warren Fuller Award. Greg works as the Program Manager for the Drinking Water Program at the North Dakota Department of Health. The award is presented annually to an AWWA member for his/her distinguished service to the water supply field in commemoration of the skill and constructive leadership which characterized the life of George Warren Fuller. Greg is currently serving on the Assistant Secretary-Treasurer for the North Dakota Section of AWWA.



Brenda Lennox (left) congratulates Greg Wavra (right).



NDWPCC 2014 Resolutions

RESOLUTION

WHEREAS, the city of Fargo through their Officials and Local Arrangements Committee has gone to considerable work and effort in making this Joint Meeting with the North Dakota Chapter of the American Public Works Association, the North Dakota Water Environment Association, the North Dakota Section of the American Water Works Association, and the North Dakota Chapter of the North American Stormwater and Erosion Control Association not only a successful one, but an enjoyable one, especially through the spirit of welcome and friendliness shown, the splendid hospitality, banquet, and other arrangements:

NOW THEREFORE, BE IT RESOLVED, that the 86th Annual Conference of the North Dakota Water and Pollution Control Conference, the 55th Annual Conference of the North Dakota Water Environment Association, the 59th Annual Conference of the North Dakota Chapter of the American Public Works Association, the 24th Annual Conference of the North Dakota Section of the American Water Works Association, and the 2nd Annual Conference of the North Dakota Chapter of the North American Stormwater and Erosion Control Association here assembled, do express their heartfelt thanks and appreciation to the following individuals who have contributed toward making the Joint Meeting a success:

Wayne Offerdahl
Mark Peterson
Kathy Redfield
Karla Olson
Eric Dodds

Dean Sletten
Mark Blonigen
Mark Peterson
Mark Blonigen
Mark Blonigen
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Mark

Dated at Fargo, North Dakota, this 16th day of October 2014.

Secretary/Treasurer Mike Brisben



RESOLUTION

WHEREAS, considerable time is expended by the Municipal Facilities and Water Quality Divisions of the North Dakota Department of Health in furthering Conference development, aims, and purposes;

NOW, THEREFORE, BE IT RESOLVED that the 86th Annual Conference of the North Dakota Water and Pollution Control Conference, the 55th Annual Conference of the North Dakota Water Environment Association, the 59th Annual Conference of the North Dakota Chapter of the American Public Works Association, the 24th Annual Conference of the North Dakota Section of the American Water Works Association, and the 2nd Annual Conference of the North Dakota Chapter of the North Amercian Stormwater and Erosion Control Association here assembled, do express their heartfelt thanks and appreciation to the North Dakota Department of Health for the work that has been done, and especially to the Municipal Facilities and Water Quality Divisions for furthering the activities of the Conference, for their work on the Official Bulletin, and for their assistance in organizing the Water and Wastewater Operators' Training Sessions each year.

Dated at Fargo, North Dakota, this 16th day of October 2014.

Secretary/Treasurer Mike Brisben



RESOLUTION RESOLUTION

WHEREAS, the North Dakota Water and Pollution Control Conference in its annual business meeting recognizes that the Water and Wastewater Operators' Training Sessions sponsored jointly by the Conference, the North Dakota Water Environment Association, the North Dakota Chapter of the American Public Works Association, the North Dakota Section of the American Water Works Association, and the North Dakota Department of Health were very successful and were of benefit to those attending and that the sponsoring organizations are desirous of continuing these training sessions;

NOW, THEREFORE, BE IT RESOLVED that the 86th Annual Conference of the North Dakota Water and Pollution Control Conference, the 55th Annual Conference of the North Dakota Water Environment Association, the 59th Annual Conference of the North Dakota Chapter of the American Public Works Association, the 24th Annual Conference of the North Dakota Section of American Water Works Association, and the 2nd Annual Conference of the North Dakota Chapter of the North American Stormwater and Erosion Control Association here assembled, do express their thanks and appreciation to the North Dakota Department of Health and the staff of its Municipal Facilities and Water Quality Divisions, who have contributed toward making these training sessions a success.

Dated at Fargo, North Dakota, this 16th day of October 2014

Secretary/Treasurer Mike Brisben WHEREAS, considerable time has been expended and expense incurred by Michael Quamme of Apex Engineering Group in his position as Associate Director of the North Dakota Water and Pollution Control Conference during the past year, and in making this Joint Meeting with the North Dakota Water Environment Association, the North Dakota Chapter of the American Public Works Association, the North Dakota Section of the American Water Works Association, and the North Dakota Chapter of the North American Stormwater and Erosion Control Association both a successful and enjoyable one;

NOW, THEREFORE, BE IT RESOLVED that the 86th Annual Conference of the North Dakota Water and Pollution Control Conference, the 55th Annual Conference of the North Dakota Water Environment Association, the 59th Annual Conference of the North Dakota Chapter of the American Public Works Association, the 24th Annual Conference of the North Dakota Section of the American Water Works Association, and the 2nd Annual Conference of the North Dakota Chapter of the North American Stormwater and Erosion Control Association here assembled, do express their heartfelt thanks and appreciation to Michael and that the Secretary be instructed to forward to him a copy of this Resolution.

Dated at Fargo, North Dakota, this 16th day of October 2014.

Secretary/Treasurer Mike Brisben



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Matt Amundson City of Fargo/Fargo Cass Public Health 435 14th Ave S Fargo, ND 58103

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Justin Andre North Prairie Rural Water District 425 6th St SW Minot, ND 58701

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Rodney Beck USDA, Rural Development PO Box 1737 Bismarck, ND 58502

Chad Beltrand Vesso, Inc. 8217 Upland Circle Chanhassen, MN 55318

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Jason Berg HD Supply Waterworks 407 72nd St SE Minot,, ND 58701

Mike Berg Apex Engineering Group 600 S 2nd St Ste 145 Bismarck, ND 58504

Brian Bergantine AE₂S 3101 Frontage Rd Moorhead, MN 56560

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Rick Berndt City of Wahpeton 1900 4th St N Wahpeton, ND 58075

Nick Beste AE₂S PO Box 453 Watford City, ND 55854

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Barrett Brown ND Department of Health 918 E Divide Ave, 3rd Fl. Bismarck, ND 58501

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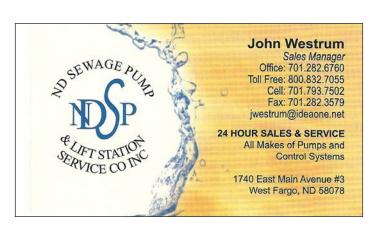
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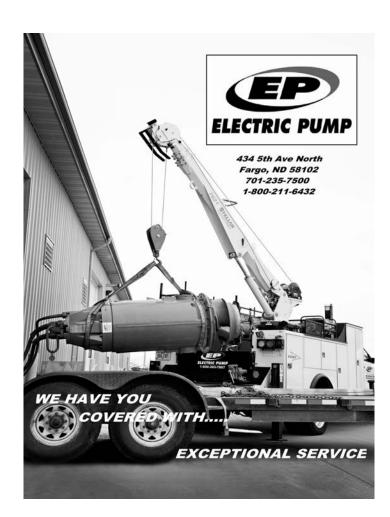
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Jeff Wright City of Mandan 411 6th Ave SW Mandan, ND 58554

Mike Yavarow City of Grand Forks PO Box 5200 Grand Forks, ND 58206

Brian Young City of Williston 2301 32nd St W #306 Williston, ND 58801 Chad Zander City of West Fargo 810 12 Ave NW West Fargo, ND 58078

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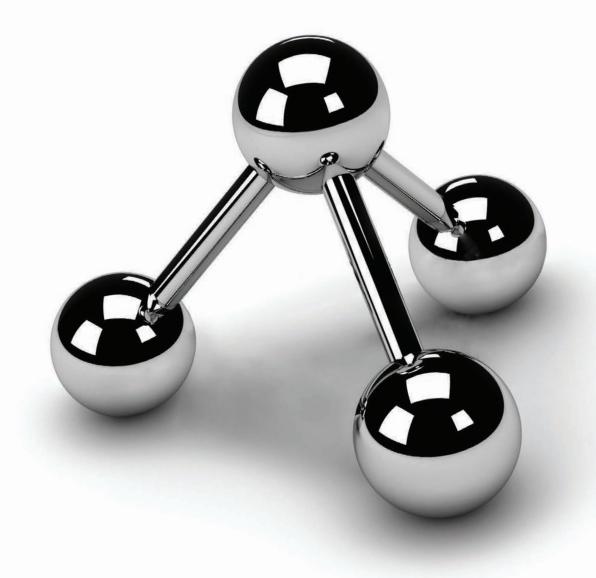
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2014 Summer and Conference Testing Operators Pass Certification Exams

Congratulations!

Operator	Employer	Certification Type/Grade
Backowski, John	Cargill Sweeteners	Wastewater Treatment 03
Bartholomew, Zachary	Grand Forks	Water Treatment 01
Benz, Justin	Beulah	Wastewater Collection 1A, Wastewater Treatment 1A
Gunville, Shannon	Belcourt Rural Water	Wastewater Collection 01
Haring, Kevin	Oakes	Water Treatment 02
Hartman, Lucas	Beulah	Water Treatment 1A
Hasbargen, Gary	Wahpeton	Water Treatment 03
Hatzenbeller, Mark	Cargill Sweeteners	Wastewater Collection 1A, Wastewater Treatment 1A
James, Ryan	West Fargo	Water Distribution 03
Keller, Eric	Minot	Water Distribution 02
Kohler, Steve	Williston	Wastewater Collection 01
Koval, Charles	Cargill Sweeteners	Water Distribution 01
Kuglin, Troy	Minot	Wastewater Collection 01
Leonard, Tom	Minot	Wastewater Collection 01
Loustaunau, Kevin	Advanced Pump	Water Distribution 02, Water Treatment 02
Randash, Brian	Minot	Water Distribution 03
Ravnaas, Gary M	Rolla	Water Distribution 1A, Water Treatment 1A
Shaffer, Jeff	McKenzie County Rural Water	Water Distribution 1A
Smedshammer, Tanner	West Fargo	Wastewater Collection 01
Staebler, Matthew	West Fargo	Wastewater Collection 01, Water Distribution 01
Zimmerman, Kim	Washburn	Water Treatment 1A
Beste, Nick	New Town	Water Treatment 01
Binstock, Clarence	New England	Water Distribution 01
Birnbaum, Dan	West Fargo	Wastewater Collection 02
Bruce, Harold R	Belcourt Rural Water	Wastewater Collection 02
Carriveau, Jason	West Fargo	Water Distribution 1A
Corey, Kevin	Dakota Rural Water	Water Distribution 01
Cummins, Crescentia	McKenzie County Rual Water	Water Distribution 1A
Demaray, Maynard R	Fort Berthold Rural Water	Water Treatment 02
Dhinaa, Morkataa	R & T Water	Water Treatment 02
Dill, David	Fargo	Wastewater Collection 02
Duchsherer, Josh	Minot	Water Distribution 03
Eisenzimmer, Terry	Camp Gilbert	Water Distribution 1A
Freeman, John	West Fargo	Wastewater Collection 01, Water Distribution 1A
Haugen, Amy	Cargill Sweeteners	Wastewater Treatment 04
Hudson, Kasey	Minot	Water Distribution 01
Huebner, Steven	Stutsman Rural Water	Water Treatment 04
Huggins, Andrew	Advanced Pump	Wastewater Collection 02, Wastewater Treatment 02
Marsolek, James R	Jamestown	Wastewater Collection 02
Matzke, Brian	West Fargo	Wastewater Collection 01
Nelsen, Nicholas	Williston Lodge & Bear Paw Lodge	Water Distribution 01
Nelson, Eric	Grand Forks	Water Treatment 02
Nordstrom, Gary	Southwest Water Authority	Water Distribution 01
Olson, Ronald D	Jamestown	Wastewater Treatment 03
Palmer, Tyler	Grand Forks	Water Treatment 03
Pranke, Dane	West Fargo	Wastewater Collection 01, Water Distribution 01

Operator

Repnow, Neal Tobin, Terry Trostad, Jonathon Weaver, Matthew Whittington, Jerry Young, Brian

Zimmerman, Jeremy

Employer

Underwood Cargill Sweeteners

McVille Mayville

Southwest Water Authority

Williston

West Fargo City Of

Certification Type/Grade

Wastewater Collection 01, Water Distribution 01

Wastewater Collection 01 Water Treatment 02 Water Distribution 01

Water Distribution 01
Water Treatment 01

Wastewater Collection 01, Water Distribution 01

Best Tasting Water in North Dakota Winner

Congratulations!

The City of Fargo has the best tasting tap water in North Dakota. The Fargo Water Treatment Plant's water beat out samples from Bismarck, Grand Forks, Lisbon, Mandan, Mayville, Valley City, and Wahpeton during the Drinking Water Taste Test at the 86th annual North Dakota Water & Pollution Control Conference in Fargo. Conference attendees selected Fargo, Valley City, and



Meredith Quinn of the NDAWWA presents the Best Tasting Water award to Mark Peterson from the City of Fargo

Mandan as the top three contenders in a blind taste test. The national Vice President of the American Water Works Association (AWWA), Brenda Lennox, teamed up with Valley News Live's Lisa Budeau, Kyle Bosch, and Kristi Larson to serve as celebrity judges during the final blind taste test.

Fargo was formally announced as the winner at the conference's awards banquet. Mark Peterson, Superintendent of the Fargo water treatment plant, says, "The City of Fargo operates a very sophisticated plant and consistently produces high-quality, good-tasting, and safe water from sources with high variability." The Water Treatment Plant relies on the Red River as its primary water source and augments its water supply with the Sheyenne River and Lake Ashtabula.

The City of Fargo will begin construction on a three-year expansion project at the water treatment plant in early 2015. The expansion will increase the plant's treatment capacity from 30 million gallons per day to 45 million gallons per day. The increased capacity is necessary to keep up with future growth. The project also includes the addition of new membrane treatment technology to treat elevated dissolved solids such as bromide and sulfate, which enter into the Sheyenne River via floodwater discharges from Devils Lake.

The ND chapter of the AWWA puts on the Drinking Water Taste Test during the North Dakota Water and Pollution Control Conference each year. Past winners include Medina (2013), Mayville (2012), Fargo (2011), Mayville (2010), Valley City (2009), Enderlin (2008), Grand Forks (2007), and Minot (2006).

The North Dakota Water & Pollution Control Conference is a joint effort of the North Dakota Section of the AWWA, North Dakota Section of the Water Environment Association (WEA), North Dakota Section of the American Public Works Association (APWA), and North Dakota Chapter of the North American Stormwater & Erosion Control Association (NASECA).

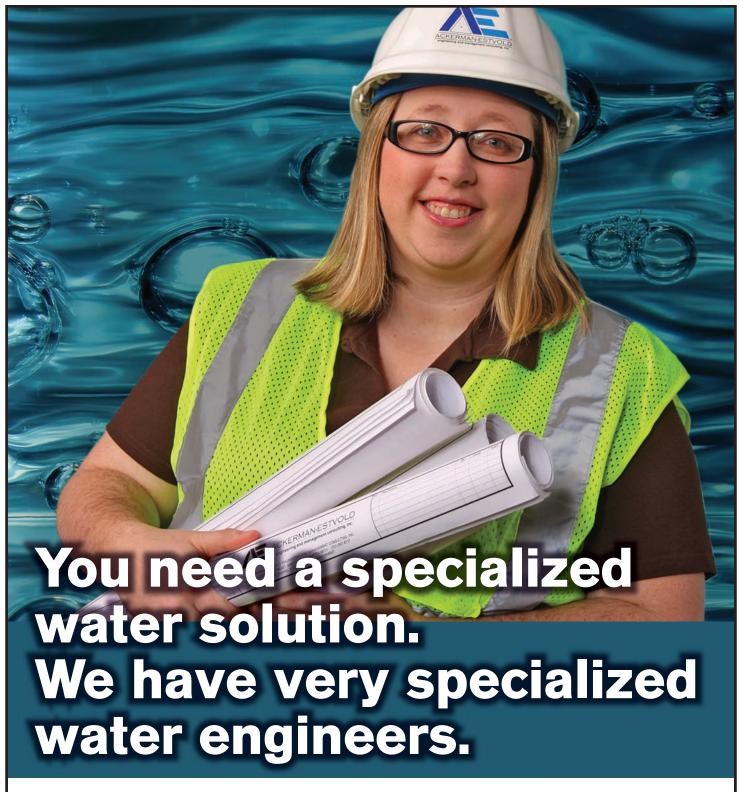


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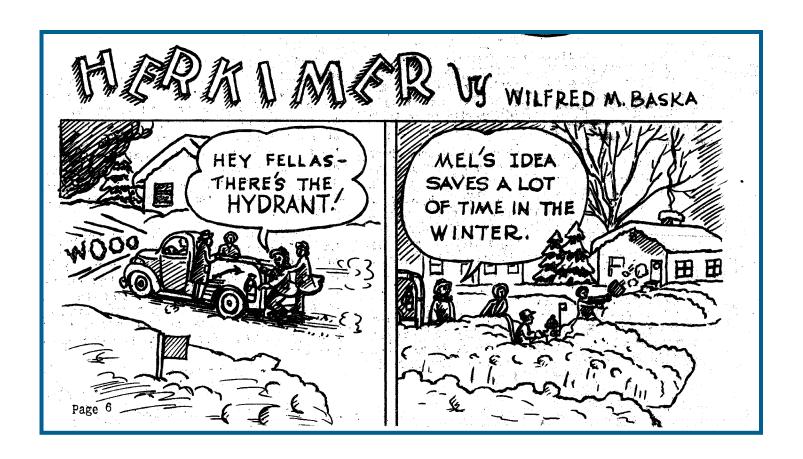


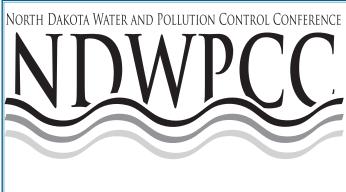
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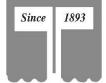
2015--Bismarck, October 6, 7 and 8 Ramkota Hotel

2016--Minot, October 11, 12, and 13 Holiday Inn Riverside

2017--Fargo, October 17, 18 and 19 Holiday Inn

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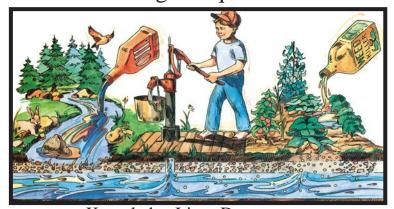
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Consumer Confidence Reports	LeeAnn Tillotson	701-328-5293
Disinfectant/Disinfection Byproducts Rule (TTHM, HAA5) Stage 1 and Stage 2 Rule	Lydia Fewless	701-328-5221
Electronic Reporting Information System (ERIS)	Barrett Brown	701-328-5209
Filter and Backwash Recycle Rule	Gary Stefanovsky	701-328-5287
Fluoride Addition	Amy Kinzler	701-328-5258
Groundwater Rule	Gary Stefanovsky	701-328-5287
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Inspections: Northwest	Justin Feld	701-328-6624
Inspections: Southeast	Shawn Heinle	701-328-6627
Inspections: Southwest	Bob Markhouse	701-328-6623
Inspections: Northwest	Mike Trythall	701-328-5269
Lead and Copper Rule	Amy Kinzler	701-328-5258
Surface Water Treatment Rule: Interim Enhanced, Long Term 1 Enhanced, Long Term 2 Enhanced	Mike Trythall	701-328-5269
Microscopic Particulate Analysis (MPA)	Gary Stefanovsky	701-328-5287
Nitrate/Nitrite Program	Amy Kinzler	701-328-5258
Operator Certification	Craig Bartholomay	701-328-6626
Operator Expense Reimbursement/Public Notice Rule	LeeAnn Tillotson	701-328-5293
Operator Training	Mike Brisben	701-328-6622
Pesticides (SOCs)	Lydia Fewless	701-328-5221
Primary and Secondary Inorganics	Lydia Fewless	701-328-5221
Public Water System Updates (changes to source, treatment, contact, etc.)	Tammy Lamphear	701-328-5295
Radionuclide Rule: Gross Alpha, Total Radium, Uranium	Lydia Fewless	701-328-5221
Total Coliform Rule Revised Total Coliform Rule	Jeni Walsh Josh Seerup	701-328-5231 701-328-5257
Unregulated Contaminant Monitoring	LeeAnn Tillotson	701-328-5293
Volatile Organic Chemicals (VOCs)	Lydia Fewless	701-328-5221
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North Dakota Pollutant Discharge Elimination System Program Directory				
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Biosolids	Marty Haroldson	701-328-5234		
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Dewatering and Hydrostatic Testing	Sarah Waldron Marty Haroldson	701-328-5237 701-328-5234		
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DMR Quality Assurance (QA) Study	Marty Haroldson	701-328-5234		
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MS4 Stormwater	Dallas Grossman Luci Snowden Patrick Schuett	701-328-5242 701-328-5239 701-328-5235		
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Septic Pumper	Sarah Waldron Marty Haroldson	701-328-5237 701-328-5234		
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