

**NDWPCC**

North Dakota Water & Pollution Control Conference

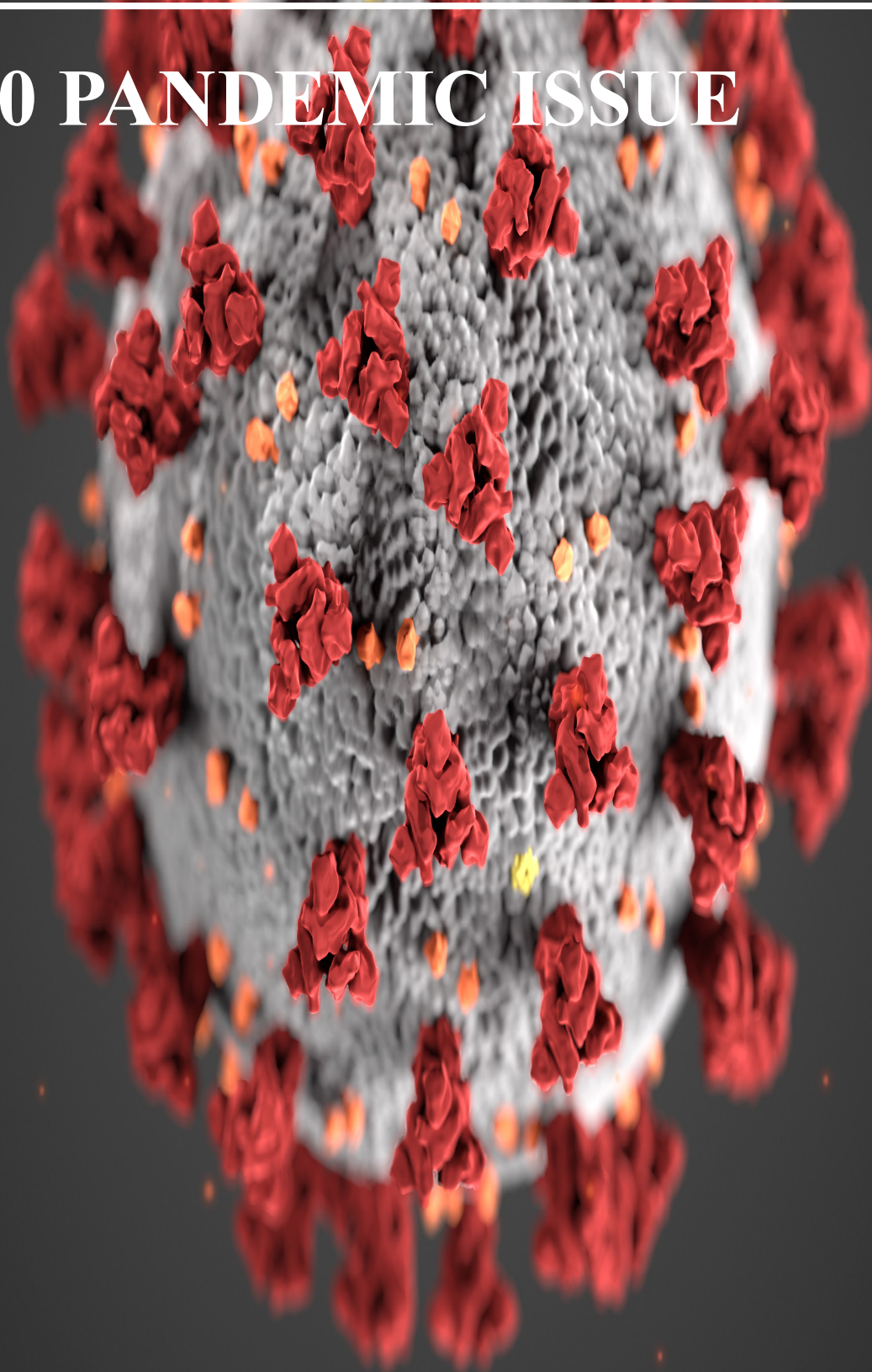
# OFFICIAL BULLETIN

VOLUME 108

January - December 2020

NUMBER 1

## 2020 PANDEMIC ISSUE





water | transportation | municipal | facilities

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how do you reach excellence?





**Editor**  
*Jake Schafer*

**Business Manager**  
*Laura J Lee*

**Contributing Authors**  
*Drinking Water Program Staff*  
*NDWPCC Members*

# OFFICIAL BULLETIN

*Official Publication of the*  
*North Dakota Water and Pollution Control Conference*

**Pandemic Issue**

**Established 1935**

**VOL. 108**

**January-December 2020**

**NOS.**

**PRESIDENT - Mike Berg**

**PRESIDENT-ELECT - Wei Lin**

**VICE PRESIDENT - Michael Quamme**

**DIRECTORS - Jim Lennington, Lance Meyer, and Scott Schneider**

**ASSOCIATE DIRECTOR - Brandon Bucholz**

**SECRETARY-TREASURER - Shawn Heinle**

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

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

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Members of the conference are indebted to those members and others who have contributed articles and other materials for this publication.

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**NDWPCC JOINT BOARD OFFICERS MEETING MINUTES**  
**May 13th, 2020**  
**Bismarck, ND**

A conference call meeting of the North Dakota Water and Pollution Control Conference (NDWPCC) Board was held on May 13<sup>th</sup>, 2020;

The meeting was called to order at 2:00 p.m. by NDWPCC Secretary Shawn Heinle.

The purpose of the conference call was to determine how to proceed with the upcoming fall conference during the COVID-19 pandemic. Would we be able to have the conference if the current social distancing restrictions are still in effect? There was discussion on perhaps holding a virtual conference, but in the end all parties agree to try and proceed with the Conference with some possible restrictions. Everyone felt that an in-person conference was a better choice, they also agreed that registration priority would be given to operators needing credits.

The board tasked Secretary Heinle with visiting the Clarion to find specific details on venue options with social distancing restrictions, what cost would the conference endure if attendance numbers are very minimal, and cancellation options if that was the final option. Secretary Heinle said he would set up a date to meet with the Clarion and with the local arrangement committee. He would then report his findings to the board.

Next, Secretary Heinle made a motion nominating Jacob Schafer as the assistant secretary/treasurer for the Conference. President Wei Lin seconded and called for a vote. Those indicating Aye: Mike Berg, Lance Meyer, Scott Schneider, Michael Quamme, Gabe Schell, Shawn Heinle, and President Wei Lin. Those opposed, were none. Motion passed.

David Bruschwein asked if the conference should look into liability insurance or insurance for the board members for the upcoming conference. Secretary Heinle said he would explore options and prices.

Michael Quamme asked if any of the various conference groups had proposed presentations for the fall conference. Secretary Heinle indicated they had not, he did receive inquiries from a couple of outside groups but had told them everything was on hold. He then said he would update the presentation form and send it to the groups letting them know they can start to submit presentations to fulfill their respective time blocks. Once presentations are sent they will be shared with the volunteers from the selection committee who will approve them.

The meeting adjourned at 3: 00 p.m.

Respectfully submitted,

Shawn Heinle  
Secretary/Treasurer

SH:ll



**NDWPCC JOINT BOARD OFFICERS MEETING MINUTES**  
**January 29th, 2020**  
**Bismarck, ND**

A meeting of the Joint Board of Directors of the North Dakota Water and Pollution Control Conference (NDWPCC); North Dakota Water Environment Association (NDWEA); North Dakota Chapter of the American Public Works Association (NDCAPWA); North Dakota Section of the American Water Works Association (NDAWWA); and the North Dakota Chapter of the American Stormwater and Erosion Control Association (NASECA-ND) was held on January 29<sup>th</sup>, 2020, in the Heart Room of the Ramkota, Bismarck, ND. The following board members and guests were present: Marlon Bell, Tracy Eslinger, Sarah Waldron Feld, Bill Gefroh, Rick Gillund, Dallas Grossman, Kellen Grub, Troy Hall, Marty Haroldson, Shawn Heinle, Alan Kemmet, Jasper Klein, Jim Lennington, Jennifer Malloy, Dennis Miranowski, Jeannie Mock, Matt Moltzan, Wayne Offerdahl, Karla Olson, Michael Quamme, Jake Schafer, Gabe Schell, Scott Schneider, Luci Snowden, Gregg Stewart, Don Wald, Greg Wavra, and Adam Zach.

The meeting was called to order at 10:40 a.m. by NDWPCC Vice President Jim Lennington. Copies of the meeting agenda and January 1 through December 31, 2019, financial reports were provided to those in attendance.

Vice President Lennington called for a motion to dispense with the reading of the minutes from the October 8<sup>th</sup>, 2019 minutes and approve the copy mailed to all board members. Rick Gillund so moved, Jake Schafer seconded, and the motion carried.

Next, Vice President Lennington called for the Treasurer's Report. Shawn Heinle read the 2019 NDWPCC year-end financial report, which showed a net gain of \$59.19 and total assets of \$150,409.79. Vice President Lennington asked for any discussion. Hearing none, Vice President Lennington called for a motion to approve the Treasurer's Report. Scott Schneider so moved, Don Wald seconded, and the motion carried.

Next, Vice President Lennington called for any old business. Tracy Eslinger reported the audit committee had reviewed the yearly finances and found no discrepancies. Alan Kemmet asked for clarification of money spent on door prizes, Shawn Heinle said he forgot to bring those receipts, but would provide them to the committee. Mr. Eslinger motioned to accept the committee's report. Vice President Lennington asked for a vote to accept the audit committee's report. Greg Wavra seconded, and the motion carried. Then Shawn Heinle discussed the attendance at the 2019 Conference at the Ramkota in Bismarck. Mr. Heinle reported that there were 325 registrants with 318 pre-registered. Mr. Heinle then broke down the attendance for the various meals. Meal attendance was affected by the inclement weather, which caused many attendees to leave early. Next Jake Schafer spoke on the cost to license Adobe software for the producing the Official Bulletin. Adobe software is now a monthly fee rather than buying upgraded software periodically. He indicated a reduced rate was achieved, so the cost was \$385.07 for the year. Jake, along with Shawn Heinle then spoke on the potential website for the Conference. Jake presented a layout of what the website could look like, now he and Shawn will work with the other volunteers to explore how to build and release the website. Lastly, Shawn Heinle requested one volunteer from each member group to review presentations for the fall conference. Adam Zach, volunteered for the AWWA, Dallas Grossman for NASECA, the other groups indicated they would let Mr. Heinle know. Also, Mr. Heinle indicated a cutoff date of June 15<sup>th</sup> for presentation submittance, this will allow enough time to complete a schedule of the events for the Official Bulletin.



Vice President Lennington called for new business. Shawn Heinle asked for presenters at the 60<sup>th</sup> annual spring trainings. Mr. Heinle indicated several openings needed to be filled for both the water and wastewater trainings. The dates will be as follows:

March 2-4, 2020  
March 9-11, 2020  
March 23-25, 2020  
March 30-April 1, 2020  
April 13-15, 2020  
April 20-22, 2020

Vice President Lennington then called for a motion to adjourn. Motion made by Jennifer Malloy, seconded by Michael Quamme. Meeting adjourned.

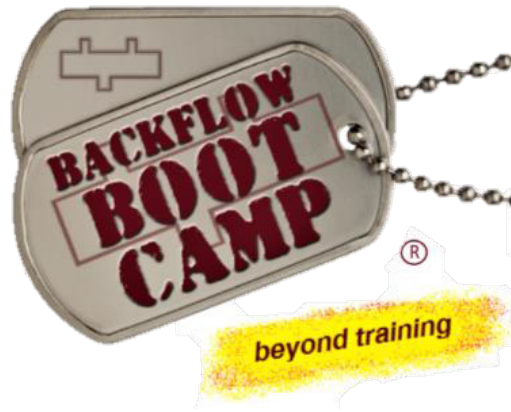
The meeting adjourned at 11:40 a.m.

Respectfully submitted,

Shawn Heinle  
Secretary/Treasurer

SH:ll





## **Basic Training**

Water System Program  
Management  
**October 20-23, 2020**



## **Troop Series**

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**October 26-30, 2020**



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Water and wastewater are critical infrastructure and the pipes and pumps had no way of knowing that our planet was coping with a pandemic. ND Rural Water Staff are used to being road-warriors who travel the state while providing technical assistance to community water & wastewater utilities. While assisting in keeping the water flowing, our technical advisors were undertaking a feat that was above and beyond their normal duties: distributing Personal Protective Equipment to water operators across the state.

As the pandemic progressed, and cloth face coverings were recommended, the National Water/Wastewater Response Network (WARN) partnered with the EPA and the Hanes Corporation to provide cloth masks for essential personnel in the industry. NDRW set out to provide a package of 5 reusable cloth masks to as many water utility personnel in ND as possible. These masks were intended to provide a means to slow the transmission between co-workers and anyone that they had interactions with in the course of performing their duties.

While NDRW Field staff are used to traveling around the state, a massive distribution, in a cost-effective manner was a new challenge for our association. We collaborated with other WARN groups around the country and decided to offer a series of mask distribution events in seven locations across the state. Locations were identified based on ease of access. The events were promoted through email, social media and a mailing. There was a smaller than anticipated response to the distribution events – with 1685 masks being delivered to 45 of the state's 399 water and wastewater utilities.



The NDRW field staff decided an onsite delivery method would be the best way to reach the remaining utilities and began distributing masks to communities throughout ND on their travels. Between May and September 1 6835 cloth masks have been distributed to 373 utilities.

Water Operations staff has been very receptive and grateful to receive the masks. We would like to extend our thanks to the systems who responded to our efforts. Some utilities were especially grateful for the masks because they served a large number of elderly and at-risk populations, and even requested more. Other Utilities did not have access to PPE through their normal suppliers. The NDRW mask distribution allowed them the opportunity to interact with their customers.

As an association, we are proud of our staff and members' ability to adapt and step-up in the face of adversity to continue providing quality service to their customers even amidst the uncertainty of the Covid-19 Pandemic. We are also very grateful to the NDDEQ for providing the information needed to effectively distribute masks, and the City of Bismarck's Water Department for their assistance in receiving a massive shipment of masks on behalf of NDRW.



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# STATE OF NORTH DAKOTA

## CAPACITY DEVELOPMENT REPORT TO THE GOVERNOR



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Prepared by

Division of Municipal Facilities

North Dakota Department of Environmental Quality

September 2020

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## REPORT PURPOSE

The North Dakota Department of Environmental Quality administers the federal Safe Drinking Water Act (SDWA) and the Drinking Water State Revolving Loan Fund (DWSRF) Program in North Dakota. Section 1420 (c)(3) of the SDWA requires that the department must report the effectiveness of its capacity development program to the governor every three years. Capacity refers to a water system's technical, managerial and financial capability to maintain SDWA compliance. Failure by the department to provide such a report will result in a 20 percent (20%) withholding of subsequent fiscal year federal grant funds for the DWSRF Program.

## INTRODUCTION

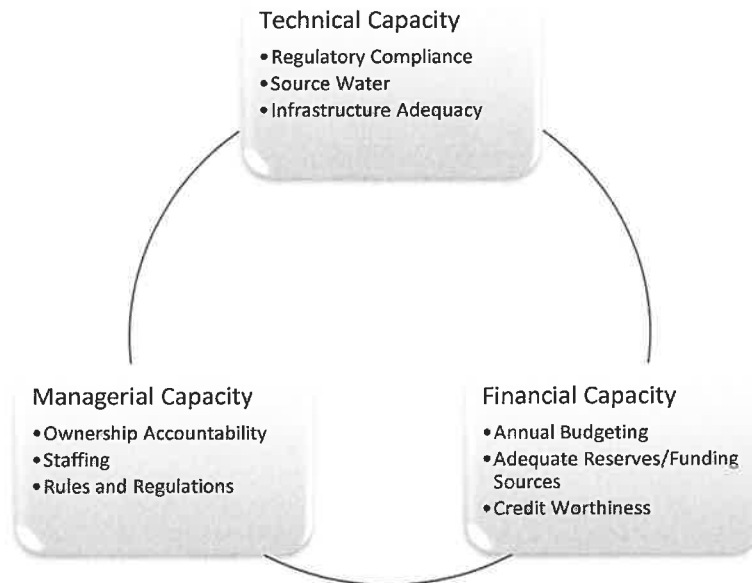
The 1996 Amendments to the SDWA acknowledged that a capable water system is better positioned to consistently comply with applicable standards and provide safe and reliable water service. Congress recognized that protection of the public's water supply requires ongoing compliance with the operation and maintenance of public water system (PWS) facilities. The term "capacity development" was used to describe capability. The fundamentals of capacity are to: (1) protect public health by ensuring consistent compliance with drinking water standards; (2) enhance performance beyond that of compliance through measures that bring about efficiency, effectiveness and service excellence; and (3) promote continuous improvement through monitoring, assessment and strategic planning.

Capacity has three components: technical, managerial and financial (Figure 1). Adequate capacity in all three areas is necessary for a system to have "capacity."

*Technical capacity* refers to the physical infrastructure of the water system including, but not limited to, the adequacy of source water, infrastructure adequacy (source, treatment, storage and distribution), and the ability of system personnel to implement the proper technical knowledge. *Managerial capacity* includes ownership accountability, adequate staffing and organization, and an understanding of the rules and regulations. *Financial capacity* refers to the financial resources of the water system including, but not limited to, the revenue sufficiency, credit worthiness, and fiscal management and controls.

Section 1420 of the SDWA requires that states develop and implement a strategy to assist PWSs in acquiring and maintaining technical, managerial and financial capacity.

**Figure 1**  
**Water System Capacity**



#### **OBJECTIVES OF NORTH DAKOTA'S CAPACITY DEVELOPMENT STRATEGY**

The capacity development strategy has two separate programs--one for new systems and one for existing systems. Even though there are two programs, the underlying objectives of both are the same. The major objectives of North Dakota's Capacity Development Strategy are:

- Prioritization of systems most in need
- Assessment of system capacity
- Developing programs to assist systems with SDWA compliance
- Encouraging partnering between systems
- Measuring success

#### **New Systems Program**

All new North Dakota community water systems (CWSs) and non-transient non-community water systems (NTNCWSs) are required to demonstrate technical, managerial and financial capability (capacity) prior to commencing operation. CWSs are PWSs that serve year-round residents such as municipalities, rural water systems, subdivisions and mobile home parks. NTNCWSs are PWSs that serve the same people for a minimum of six months per year (e.g., rural schools, power plants and industrial parks). New system guidelines are outlined in the *New Water System Capacity Assessment Manual* and the *New System Capacity Assurance Plan*. North Dakota's new system strategy was approved by the U.S. Environmental Protection Agency (EPA) in September 1999. The department was granted the authority to ensure new system capacity under North Dakota Century Code (NDCC) Chapter 61-28.1, Safe Drinking Water Act, by the 55<sup>th</sup> Legislative Assembly in 1997. The department provided to EPA the



North Dakota Attorney General's written opinion certifying the department's authority to ensure all new CWSs/NTNCWSs commencing operation after October 1, 1999 demonstrate capacity with respect to SDWA regulations or regulations likely to be in effect on the date operation commences.

Pursuant to NDCC 61-28.1, the department adopted North Dakota Administrative Code (NDAC) Article 33.1-17, Public Water Supply Systems. These regulations, originally adopted in 1977 and last amended in 2017, provide a means to implement a capacity assurance program. Based on such authority, proposed new PWSs must provide a number of assurances as part of the plans and specification approval process.

The department requires: (1) plans and specifications be submitted for review and approval prior to construction; and (2) operation not commence until a letter of approval is issued. These primary control points allow the department to ensure the capacity of new systems prior to their development.

### **Existing Systems Program**

The *North Dakota Existing Water System Capacity Strategy* details the steps taken to implement and maintain a capacity program. This strategy aims to help all North Dakota PWSs acquire and maintain capacity. The North Dakota strategy was approved by EPA and implemented prior to August 1, 2000. The SDWA required states to consider each of five programmatic elements in its capacity development. The department included all five elements in its existing water system capacity document and believes that together they constitute an effective strategy.

- Element A: Methods or criteria used to prioritize systems in need of technical, managerial and financial assistance
- Element B: Factors encouraging or impairing capacity development
- Element C: Description of how states will use the authority and resources of the SDWA
- Element D: Establishment of a baseline and measurement of improvements
- Element E: Identification of stakeholders

Factors encouraging and impairing capacity remain the same. Enhancements include federal funding, Division of Municipal Facilities (DMF) administration, state primacy and stakeholder involvement.

The DMF uses pertinent existing programs as a baseline to identify PWSs that lack capacity and are in danger of becoming a compliance problem. The point system developed for the existing capacity strategy utilizes SDWA compliance data, operator certification deficiencies, inspection reports, DWSRF financial audits and laboratory past-due accounts to evaluate capacity. PWSs accumulating 10 points or more and having the greatest impact on public health are prioritized beginning with the highest number. PWSs with a history of significant noncompliance (SNC) automatically receive 10 points, making them candidates for immediate assistance.

## **ACCOMPLISHMENTS**

Several tools are being utilized to implement the capacity development strategy. These tools, which are discussed below, include tracking new water systems/new operators, financial and managerial planning, technical assistance, water rate studies, funding, and operator training and certification. The number of systems that received on-site technical assistance were, 59 in 2017, 45 in 2018, and 36 in 2019 for a total of 140.

### **Tracking New Water Systems/New Operators**

The DMF tracks new water systems through individuals contacting the DMF, local/district health units, existing PWSs, financial assistance contracts, engineering firms and other state agencies. The department has determined that the present method of identifying and contacting proposed systems is effective and will continue using it.

Currently, the number of new CWSs/NTNCWSs added to the North Dakota PWS inventory has been on the decrease, especially in the western part of the state, due to the large drop in oil activity. New developments (subdivisions, trailer courts, industries, etc.) generally occur adjacent to or within the service areas of existing PWSs and are typically consolidated with or provided bulk water service by the existing PWS.

### **Financial and Managerial Planning**

Financial and managerial training is a collaborative effort between the North Dakota Rural Water Systems Association (NDRWSA), Midwest Assistance Program (MAP), Environmental Finance Center, North Dakota Department of Environmental Quality Finance Authority (PFA). The intent of the financial and managerial training is to provide participants with a solid understanding of the key components of financial planning including the following:

- Elements of an effective budget
- Capital improvement planning and financing
- Rate structure options for the small water system
- How to calculate capacity fees
- Process for raising fees
- Asset management
- Demonstration of financial tools

### **Technical Assistance**

Helping water systems develop and maintain capacity is the backbone of the capacity strategy. Many water systems throughout North Dakota have increased their capacity through the technical assistance program. This program provides “targeted” assistance by focusing on specific issues or problem areas. The department collaborates with the same organizations for technical assistance as with financial and managerial planning.



### **Water Rate Studies**

Analysis of the data collected during capacity evaluation revealed many water systems are weak in financial capacity. Assistance has been provided to help water systems evaluate their budgets and water rates. Each utility has unique needs whether they have declining populations, operating deficits, eroding infrastructure, limited funding or complex SDWA requirements. Since many small water systems are facing rate deficiencies, the technical assistance provider identifies options for rate increases or reduction of expenses or rate restructuring. The water system is provided with various methods for calculating base rate, capacity fees and connection fees. Assistance is also provided for presenting rate increase information to customers at public hearings and the governing board.

### **Funding**

The North Dakota DWSRF provides low-interest loans to CWSs in the state to upgrade existing or construct new drinking water facilities, as was authorized by the 1996 Amendments to the SDWA. The DWSRF is jointly managed by the department and the PFA. The department receives the federal capitalization grants and is responsible for the technical and overall administrative functions of the program. The PFA, under agreement with the department, serves as the financial agent and is responsible for reviewing and issuing bonds, reviewing the financial capability of loan applicants, investing program proceeds, handling loan repayments and conducting other necessary financial functions.

The grant funds and bond proceeds are deposited into the DWSRF and made available as low-interest loans for eligible PWS projects. As systems pay back their loans, the interest and principal payments, along with available investment earnings, are used to retire the state bonds. They are a source of funds for additional projects as well. This revolving feature of the DWSRF Program will ensure that North Dakota has funds for needed projects into the future.

The present loan interest rate for eligible PWSs that qualify for tax-exempt financing is 1.5 percent. The present loan interest rate for eligible PWSs that do not qualify for tax-exempt financing is 2.5 percent. All loans are subject to a 0.5 percent administration fee. The maximum repayment period for DWSRF loans under the SDWA is 30 years.

### **Operator Training and Certification**

The department contracts with the North Dakota State Plumbing Board, local/district health units, and technical assistance providers such as the NDRWSA and MAP. Contracts with the State Plumbing Board and health units provide continued support to the public water supply and inspection programs. Technical assistance providers offer operator certification training. In addition, NDRWSA, MAP and the North Dakota Section of the American Water Works Association (NDAWWA) will continue to provide additional training events.

Operators have opportunities to attend annual conferences, water treatment and distribution workshops, DMF wastewater treatment and collection training sessions, field pH certification workshops, NDAWWA workshops, MAP trainings, and NDRWSA training sessions and annual exposition.

## **CHALLENGES**

The experience, training and background of water system managers, operators and board members are directly linked to the capacity of a water system. Water systems led by a capable, experienced manager and supported by a competent and progressive governing board tend to have high capacity in all areas.

Despite the maturing of North Dakota's Capacity Development Program, there are still some significant areas of weakness in rural and oil-impacted areas of North Dakota. These areas of weakness derive from all three aspects of capacity.

The following are the department-identified areas of capacity weakness:

1. Aging workforce. There have been several published reports regarding the aging workforce in the water industry and the lack of qualified professionals to succeed those retiring.
2. Salaries. Due to the competition in the marketplace, small water systems typically do not offer enough money to attract experienced operators and managers. They will usually find someone less qualified who will work for a lower wage.
3. Stagnant or declining pool of new professionals. Educational programs that promote the water industry and adequately prepare new professionals are limited in North Dakota. The one program that is available in the state struggles to attract students. Many operators and managers learn on the job and start at the entry level with little or no formal education or preparation. Some water systems are functioning without a certified water operator or continue to use a contract operator that provides minimal local service.
4. Board members without utility backgrounds. Some communities struggle to find enough individuals to serve on a board. Many board members lack a fundamental understanding of water system operations, finance and management.
5. PWS ownership. Increasingly, public water systems are owned and/or operated by out-of-state entities. Such entities tend to be unresponsive or slow to address capacity issues.
6. Mail and package delivery in oil-impacted areas. Mail and package delivery to public water systems in oil-impacted areas has been problematic. Alternate, costlier delivery services are becoming increasingly necessary to ensure that correspondence and water sampling kits can be delivered within acceptable timeframes.



7. Laboratory impacts. Changes in EPA methodology, which requires new laboratory certifications and instrumentations, have caused a delay in the DMF normal 3-year cycle of samples. Compliance has not been affected.
8. COVID-19. Operator training classes and certification test dates were cancelled in March 2020 due to COVID-19. The Environmental Training Center was used for prepping of COVID-19 test kits through the summer of 2020 so trainings will be rescheduled to a later date and time.

## **THE WAY FORWARD**

As the program grows and evolves, there have been many lessons learned. These lessons have resulted in a program that continues to improve and better serve the needs of North Dakota's water systems.

While all systems are unique, most water systems in North Dakota still need assistance with some aspects of capacity. Full-cost pricing is required for a water system to fully function as it should. Operation and maintenance activities, such as valve exercising and routine flushing, are also important to extending the life of the infrastructure.

Proper management of infrastructure assets is one of the critical concepts for a sustainable and resilient water system. Although the concept of managing assets is relatively simple, many water utilities do not understand how to design and implement an effective asset management program. Managing a utility effectively requires a proactive approach to managing infrastructure assets. The primary objective of asset management is to manage system assets in a way that meets long-term service requirements, reliability and cost-effectiveness. Future technical assistance efforts will continue to include asset management training and assistance.

The department will continue to measure capacity improvements by monitoring new system activity and by using operator certification compliance reports, PWS inspection reports and the Enforcement Tracking Tool (ETT), which tracks each system's compliance with all SDWA rules. The department encourages a collaborative effort with stakeholders to promote safe drinking water, public health and quality of life.

Stakeholder involvement continues to be a key element in program success. DMF staff and the North Dakota Water and Pollution Control Conference (NDWPCC) offer annual operator training sessions to help PWSs achieve and maintain capacity. The NDWPCC also jointly sponsors an annual conference with the North Dakota Water Environment Association, NDAWWA, the North American Storm Water and Erosion Control Association, and the North Dakota Chapter of the American Public Works Association. The NDRWSA, MAP, and the North Dakota Environmental Health Association also provide annual training sessions, conferences and expositions.

The department continues to contract with the North Dakota State Plumbing Board, local/district health units, and technical assistance providers such as MAP and NDRWSA. These contracts provide support to the public water supply, facility inspections, sanitary survey follow-up visits, capacity development and operator certification programs. The department will continue to grant follow-up contracts for these assistance programs to ensure the safety of North Dakota's drinking water.

To further promote stakeholder involvement, the *Capacity Development Report to the Governor* and the *FY20 Capacity Development Program Report* will be published in the *Official Bulletin*, the official publication of the NDWPCC. The *Capacity Development Report to the Governor*, *New Water System Capacity Assessment Manual* and *North Dakota Existing Water System Capacity Strategy* are available on the department website at: <https://deq.nd.gov/MF/>.

All reporting requirements have been met for fiscal years 2017-2020. Contracts for technical assistance have been renewed, and a proposal for follow-up assistance in 2021 is anticipated.

The department will continue to monitor existing systems, while providing consultation, training and financial recommendations. Implementation of new SDWA regulations affecting capacity will be evaluated as needed. Any modifications resulting from these regulations will be detailed in future reports. Currently, 99 percent of all PWSs meet all health-based drinking water standards by utilizing treatment and source water protection. This is above the EPA goal of 90 percent. In addition, 100 percent of all PWSs have undergone a sanitary survey in the past three years, well above the 75 percent target.

*"Water system capacity is the ability to plan for, achieve and maintain compliance with applicable drinking water standards. Capacity has three components: technical, managerial and financial. Adequate capacity in all three areas is necessary for a system to have capacity."*

# North Dakota Operator Certification Program 2020 Annual Report to US Environmental Protection Agency

September 18, 2020

For questions or additional information, please  
contact:

David J. Bruschwein, LPE, Director  
Division of Municipal Facilities, 918 East Divide  
Avenue

Bismarck, ND 58501  
701.382.5259  
dbruschw@nd.gov  
[https://deq.nd.gov/MF/  
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## **Introduction**

In 1999, the U.S. Environmental Protection Agency (EPA) issued operator certification program guidelines specifying minimum standards for certification and recertification for the operators of community and non-transient non-community public water systems. The goal of the operator certification program is to protect human health by ensuring that skilled professionals are overseeing the treatment and distribution of safe drinking water. Operator certification is a crucial step in promoting compliance with the Safe Drinking Water Act (SDWA), and oversight of the program ensures that these steps are taken.

The State of North Dakota's Operator Certification Program (program) was approved as consistent with the *Final Guidelines for the Certification and Recertification of the Operators of Community and Non-Transient Non-Community Public Water Systems*, on September 27, 2000.

This is North Dakota's annual program report to EPA for state fiscal year 2019. In accordance with the guidelines, this report addresses the status and continued implementation of North Dakota's program for the 9 Baseline Standards for both community and non-transient non-community water systems. The nine program components are:

1. Authorization
2. Classification of systems, facilities and operators
3. Operator qualifications
4. Enforcement
5. Certification renewal
6. Resources needed to implement the program
7. Recertification
8. Stakeholder involvement
9. Program review

## **1. Authorization**

The State of North Dakota's Department of Environment Quality (ND DEQ), Division of Municipal Facilities (DMF), has been delegated responsibility for the oversight of public water systems in the State of North Dakota to ensure compliance with and enforcement of the provisions of the North Dakota Century Code (NDCC) Title 23.1 and the North Dakota Administrative Code (NDAC) Article 33.1-19.

There has not been a statutory and/or regulatory change that required a new Attorney General's certification for the North Dakota's Operator Certification Program.

## **2. Classification of Systems, Facilities, and Operators**

### **Public Water Systems**



DEQ is responsible for classifying all public water system treatment and distribution system facilities in accordance with the provisions of NDAC Article 33.1-19-01-08 and 08.1. Treatment classification is based on specific design features that include treatment processes and their complexity, source water type and design capacity. Distribution systems are classified by the population served. Water treatment facilities are classified as Class IA, Class I, Class II, Class III, or Class IV. Class IV is the highest level of classification. Water distribution systems are classified as Class IA, Class I, Class II, Class III, or Class IV. Class IV is the highest level of classification.

### **Certified Operator**

NDAC Article 33.1-19-01-03 and 11 requires every water and wastewater facility to be operated under the supervision of a certified operator in responsible charge who holds a certificate equal to or greater than the classification of the facility, and an operator holding a Class II classification or higher is considered to have responsible charge. All operator names, identification and classification of PWS, and operator classifications are tracked in Microsoft Office's Access Database System. The regulation also reserves all process control and system integrity decisions to the certified operator in responsible charge or another operator holding a certificate equal to or greater than the classification of the facility in accordance with our North Dakota New Water System Capacity Assessment Manual. The certified operator in responsible charge or another operator who holds a certificate equal to or greater than the classification of the facility must always be available during operating hours of a water treatment or distribution facility.

Compliance with operator certification requirements is North Dakota's Safe Drinking Water Program priority. Table 1 represents the systems in compliance with the certified operator requirements.

**Table 1- Systems Matrix**

<b>Water System</b>	<b>Number of Facilities</b>
<b>CWSs</b>	<b>317</b>
<b>NCWs</b>	<b>73</b>
<b>NTNCWs</b>	<b>7</b>

<b>Water Treatment</b>		<b>Water Distribution</b>	
<b>Level</b>		<b>Level</b>	
1A	33	1A	190
I	9	I	75
II	31	II	49
III	35	III	7
IV	10	IV	3

**Table 2 – System Compliance Rates**

Non-compliance is a result of one of the following circumstances:

1. A certified operator has not been designated by the system's owner.

## Exam Pass Rates

Successfully passing exams is vital to maintain a steady workforce of certified operators, and for this reason, DEQ has chosen not to utilize third party sources to conduct examinations.

**Table 3 – Exam Pass Rates**

Water Treatment			Water Distribution		
Level	Number of Exams	Pass Percentage	Level	Number of Exams	Pass Percentage
IA	7	85%	IA	21	90%
I	33	57%	I	27	66%
II	9	44%	II	30	30%
III	8	25%	III	7	100%
IV	15	33%	IV	5	60%

The average pass rate treatment exams was 50% percent, and the average pass rate for distribution was 62% percent. The overall pass rate for water treatment and distribution for state fiscal year 2020 was 57% percent, and the overall pass rate for water treatment and distribution for state fiscal year 2019 was 59%. The program has not made any changes that would explain the 2% drop in exam pass rates for the reporting year. The drop is due to North Dakota having approximately 98% of the PWSs are small systems (i.e. PWSs with populations  $\leq$  3,300 customers). These small systems employ only one water operator with water operations being only a part of their overall responsibilities (e.g. mowing, clearing roads, and animal control). Operators are generally lost due to retirement or resignation with recruitment of qualified operators hampered by declining population and financial constraints.

Additionally, the amount of fluctuation is due to several of factors. First, many of the systems are very small and purchase their water, so they are only required to have a certified operator for distribution. Second, for many operators the care of the systems is not their primary employment, especially in smaller systems, and they feel it is not worth getting certified. Finally, many systems' certified operators have retired or taken other jobs and their replacements are working with the DEQ to become compliant. These factors combined influence operator certification numbers now and for the foreseeable future.

## Operator Certification-Capacity Development Partnership

MAP (Midwest Assistance Program) and NDRWSA (North Dakota Rural Water Systems Association) work in partnership with the DEQ. The partnership reaches operators and system owners on a grassroots level to improve compliance, enhance water quality, better position a system managerially, financially, and technically for the future and to protect public health. MAP and NDRWSA purpose are to provide technical, management, and financial assistance, by conducting one-on-one and group trainings to public water systems so they can strengthen

their ability to supply safe drinking water to the public and to protect their source water.

The division has increased outreach to operators in an effort to address the identified areas of concern:

- The Division sponsors no or low-cost trainings offered in multiple sites across the state with a focus on operations, math, and regulations.
- MAP and NDRWSA provided 22 on-site, individual operator training sessions at no cost and classroom style training sessions and presentations.
- Division compliance, operator certification, and engineering staff regularly present at conferences, seminars, and other training venues throughout the state on various regulatory compliance topics.
- MAP provides support for North Dakota's Water and Wastewater Agency Response Network (NDWARN) and works with DEQ to provide systems and operators with emergency preparedness and response training.

As stated previously, operators need a minimum amount of experience to qualify for exam testing. When operators apply for an exam, the operator certification database verifies the minimum amount of time has been met. This is calculated from the application information, including the start date for the operator. Letters of acceptance or rejection for exam testing are then sent to the applying operator.

## **Grandparenting**

North Dakota did not implement the provisional, temporary, or grandparenting options, and North Dakota requires that all affected PWSs employ operators certified at an appropriate level under North Dakota Administrative Code (NDAC) Article 33.1-19-01-03 and 11.

## **4. Enforcement**

### **Facility Enforcement**

Article 33-17, North Dakota Public Water Supply Systems, of the NDAC and NDCC Chapter 61-28.1 provide the statutory authority to issue an Administrative Order for violations of SDWA regulations. The Department has the authority to bring this action pursuant to NDCC Chapter 61-28.1-03.

In state fiscal year 2020, there were 1925 certifications, 77 certifications were revoked, and there are 106 certifications that were in the process of being revoked.

Lastly, North Dakota does not suspend licenses. In the program, operators are either active or revoked [i.e. deceased, lack of continuing education credits (CECs), or non-payment of fees].

### **Operator Disciplinary Action**

In state fiscal year 2020, no enforcement action was needed based solely on operator certification.



## **5. Certificate Renewal**

### **Certificate Renewal and Professional Development**

NDCC Chapter 23.1-07 provides the Department the legal authority to promulgate rules necessary to administer an operator certification program. A certificate issued under these provisions is valid for one year and expires the first of July the following year.

The Department is authorized to charge an examination fee not to exceed \$50 for initial certification, or more than \$25 for annual renewal. Certification fees are currently set at \$10 per examination and \$5 per certificate of renewal. Renewal notifications, reimbursement cards, and six-month reminder letters are sent each renewal period. Operators have one year to make payment or return a signed reimbursement waiver before certification is revoked, and operators are required to earn twelve continuing education credits (CECs) by attending training programs, seminars, and workshops developed or officially recognized by the DEQ within three years of certification date. If any operator fails to meet any requirement of the mentioned requirements, then, DEQ revokes their certification and does not suspend certifications.

In addition to the annual renewal fee, operators must also have 12 current education credits to renew certificates. The credits are good for a three-year period from the date the operator obtained the credits. Credits can obtain from a variety of Department approved education sources.

33-19-01-12. Operator qualifications. The following grade qualifications are intended to be as nearly compatible as possible to the corresponding facility or system classification. 1. Grade IA. a. Completion of high school or equivalent, and a minimum of six months of acceptable operation of a facility or system of class IA or higher. b. A combination of education qualifications and experience that will be satisfactory to the department. No substitute may be permitted for minimum experience requirements, unless an exception is granted under section 33-19-01-07. 2.

#### **Grade I.**

- A) Completion of high school or equivalent, and a minimum one year of acceptable operation of a facility or system class I or higher; or
- B) A combination of education qualifications and experience that will be satisfactory to the department. No substitute may be permitted for minimum experience requirements, unless an exception is granted under section 33-19-01-07. 3.

#### **Grade II.**

- A) A four-year college degree and a minimum one year of acceptable operation of a facility or system of class I or higher, one year of which must have been in a position of direct responsible charge;
- B) Two years post high school education and a minimum two years of acceptable operation of a facility or system of class I or higher, one year of which must have been in a position of direct responsible charge;

- C) Completion of high school or equivalent, and a minimum three years of acceptable operation of a facility or system of class I or higher, one year of which must have been in a position of direct responsible charge; or
- D) A combination of education qualifications and experience that will be satisfactory to the department. No substitute may be permitted for the minimum experience requirement, unless an exception is granted under section 33-19-01-07. 4. Grade

### **Grade III**

- A) A four-year college degree and a minimum two years of acceptable operation of a facility or system of class II or higher, two years of which must have been in a position of direct responsible charge;
- B) Two years post high school education and a minimum three years of acceptable operation of a facility or system of class II or higher, two years of which must have been in a position of direct responsible charge;
- C) Completion of high school or equivalent, and a minimum four years of acceptable operation of a facility or system of class II or higher, two years of which must have been in a position of direct responsible charge; or
- D) A combination of education qualifications and experience that will be satisfactory to the department. No substitute may be permitted for the minimum experience requirement, unless an exception is granted under section 33-19-01-07. 5.

### **Grade IV**

- A) A four-year college degree and a minimum three years of acceptable operation of a facility or system of class III or higher, two years of which must have been in a position of direct responsible charge;
- B) Two years of post-high school education and a minimum four years of acceptable operation of a facility or system of class III or higher, two years of which must be in a position of direct responsible charge;
- C) Completion of high school or equivalent and a minimum five years of acceptable operation of a facility or system of class III or higher, two years of which must have been in a position of direct responsible charge; or
- D) A combination of education qualifications and experience that will be satisfactory to the department. No substitute may be permitted for the minimum experience requirement, unless an exception is granted under section 33-19-01-07.

**Table 4 –Operator Renewing Certificates**

<b>Grade</b>	<b>Water Treatment</b>	<b>Water Distribution</b>
IA	79	162
I	68	237

II	137	159
III	77	83
IV	99	33

Sixty-seven courses were approved for operator professional development, and approximately 850 attended the training courses. Many of these classes were held multiple times within state fiscal year 2020. The price for each course varies from no charge, to several hundred dollars for multiple day training events.

Trainers submit applications for CECs training courses to be approved by the DEQ, and upon completion of the training courses by the operators, the course is entered into the database. Trainings that we know about in advance (e.g. MAP and NDRWSA) are provided on our website at <https://deq.nd.gov/MF/> and on our website calendar at <https://deq.nd.gov/calendar.aspx>.

## **Resources Needed to Implement the Program**

Program resources continue to be provided through the collaborative effort of existing DEQ programs and stakeholder involvement. The experience and expertise of program staff, technical assistance providers, and the many professional organizations involved contribute to and enhances program success.

DEQ continues to provide financial assistance through State funded Operator Expense Reimbursement, Drinking Water State Revolving Loan Fund (DWSRF) two percent (2%) set-aside, and Public Water System Supervision Program.

NDCC 23.1-07-05 allows the DEQ to charge a fee for certificates issued under this chapter, but the fees may not exceed fifty dollars for the initial certificate, or twenty-five dollars for the annual renewal certificate. All receipts from the fees must be deposited in the state treasury to be credited to a special fund to be known as the "operators' certification fund" to be used by the department to administration and enforcement and financially assist the department in conducting operator training programs. Any surplus at the end of the fiscal year must be retained by the department for future expenditures.

Operator certification fees do not fund agency staff. All agency staff funding is provided through state general funds, general program fees, and various federal grants. The division has one full-time employee dedicated to operator certification. In addition, compliance is checked by the drinking water and enforcement staff during on-site by field inspections (i.e. sanitary surveys). Facility classification is done at the time of design review by engineering section staff. The division's data system, management, and administrative staff members provide necessary support for the program as well. In total, there are three division staff members with responsibilities or input related to the certified operator program, and there has not been a decrease or increase of the aforementioned staff members. Under the current organization, North Dakota has sufficient resources to implement its operator certification program now and into the future.

## **6. Recertification**

Certificates are valid for one year from the date of issue. Once an operator's certificate has expired, they are no longer certified. A certificate may be restored, through renewal, for up to one year after the expiration date. A certificate is

automatically revoked after one year from the expiration date of the certification (July 1 on any year). Subsequently, if the person desires to be re-certified they are treated as a new applicant for certification and must sequentially re-test.

## **7. Stakeholder Involvement**

### **Rulemaking**

Stakeholder involvement continues to be a critical element instrumental to program success.

DEQ and the North Dakota Water and Pollution Control Conference (NDWPCC) continue to offer annual training sessions at the Department's environmental training center. The NDWPCC also jointly sponsored the 90th Annual NDWPCC conference with the North Dakota Water Environment Association (NDWEA), the North Dakota Chapter of the American Water Works Association (NDAWWA), the North Dakota Chapter of the American Public Works Association (NDCAPWA), and the North Dakota Chapter of the North American Stormwater and Erosion Control Association (NASECA). The North Dakota Rural Water Systems Association (NDRWSA) and North Dakota Environmental Health Association (NDEHA) also continue to provide annual training, conferences, and expositions.

The Department continues to contract with the North Dakota State Plumbing Board, local/district health units, and technical assistance providers such as the North Dakota Rural Water System Association (NDRWSA) and the Midwest Assistance Program (MAP). Contracts with the State Plumbing Board and health units provide continued support to the public water supply and inspection programs. Contracts continue with the technical assistance providers to help systems with fiscal management reports, capacity development, sanitary survey follow-up visits, operator certification, compliance monitoring in accordance with Stage 2 Disinfectants and Disinfection Byproducts Rule, and RTCR Level One and Level 2 Assessments. Also, the NDRWSA, MAP, and NDAWWA will continue to provide additional training events for operators.

Operators had the opportunity to attend one annual conferences, four water treatment and distribution workshops, two wastewater treatment and collection training sessions, two field pH certification workshops, one AWWA small systems training, the Rural Water Expo, four MAP emergency response trainings, four MAP half-day regional training, and 14 NDRWSA training sessions. The Rural Water Expo and NDRWSA sessions were attended by a total of 750 operators. NDRWSA sessions included: operator certification, exam training, operations and maintenance training, DEQ Regulatory training, GIS/GPS training, and funding training.

One-hundred and sixty-nine small system operators requested operator expense reimbursement for thirty-eight events in state fiscal year 2020.

### **Drinking Water Meeting Groups**

DEQ holds two meetings annually. One is internal that is conducted in September of every year, and its members consist of seven DEQ staff members. The external meeting is held in October of every year, and its members consist of four water/wastewater operators DEQ staff member, utility manager, conference representative, a representative of the public, and a technical assistance provider.



## **Water newsletter**

DEQ publishes the Official Bulletin (OB) three times a year (i.e. beginning of July, end of September, and beginning of January of each state fiscal year), and the publication is sent to approximately 800 individuals that consists of regulators, consulting firms, communities, and a handful of colleges and universities.

Each newsletter contains at least one article specifically focusing on operator certification topics of interest and any changes to regulation, and other articles are provided by consulting firms. The OB also provides the minutes from internal and external board meetings.

## **8. Program Review**

The North Dakota Operator Certification Advisory Committee completed an external review October 09, 2019 in association with the 91<sup>st</sup> Annual NDWPCC Conference. An internal review by DEQ Drinking Water and Operator Certification Program staff was held September 13, 2019. Minutes of both meetings are attached. DEQ continues to work toward developing a standardized approach to conducting both internal and external reviews.

## **9. Conclusion/Summary**

The State of North Dakota's facility operator certification program is meeting the requirements for the nine Baseline Standards for community and non-transient non-community water systems in accordance with the guidelines.

## **ND Water and Pollution Control Conference 2020**

**As we all know, 2020 has been an interesting and turbulent year. It will go down in the history books as the year of Covid-19, social distancing, masks, isolation, economic downturn, and political unrest.**

**Our normal routines have been altered, modified, and sometimes decimated. In time, hopefully, we will get back to our routines, but they will never be quite the same.**

**This year would have been the 92<sup>nd</sup> Annual Water and Pollution Control Conference, scheduled of October 13-15, at the Clarion in Minot, ND. But, due to the Covid-19 pandemic, the decision was made to cancel the conference. It was not an easy decision. There were many discussions and scenarios presented to try and host some form of the conference.**

**These are the following reasons the decision to cancel was made. First, the Conference attendance would have been limited to 78, which is 1/5 the normal attendance, to maintain social distances. The limiting factor being meals. The limited attendance really defeated many of the conference objectives. Second, was the issue of**



**presentation time in a limited tract system, will people want to travel to present for a half-hour or hour, then return home.**

**Third, we were pushing to have some form of the conference to help operators who would be short of credits, but the DEQ gave a year extension on credits. So, not as necessary. Fourth, many of the small-town operators who might have attended, possible, could not do so due to money shortages in their respective systems.**

**Fifth, it would not cost the Conference any money to cancel. Finally, we did not want to be the conference that caused an outbreak of Covid-19. Indications from experts said we are still in the first outbreak, and there would be a second outbreak in the fall. There was discussion of having a virtual conference, but we did not have the time and resources to make that a possibility.**

**Hopefully, 2021 will allow us to host the 93<sup>rd</sup> annual conference. This conference is scheduled for October 12-14, at the Holiday Inn in Fargo. Until then, stay safe.**

**Respectfully,**

**Shawn Heinle**

**NDWPCC Secretary-Treasurer**



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**North Dakota Section**  
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# The **One AWWA** Operator Scholarship

*Are you currently water utility operator (any grade/class) or seeking to become one? Carefully consider applying for this amazing scholarship opportunity!*

The **One AWWA Operator Scholarship** is funded through the support of AWWA's Water Equation and the North Dakota Section of AWWA .

## **PURPOSE of AWARD**

AWWA's Water Equation and the North Dakota Section of AWWA, will award the **One AWWA Operator Scholarship** in the amount varying between \$500-\$2000 for Water Operator training and education.

Scholarship award can be used for certification/licensure, two-year water related associate degree, technical school program, professional training program, books and manuals, and operator related conferences. It can be also be applied to existing technical school semester (e.g. BSC)

Each scholarship recipient will also receive a one-year AWWA Operator membership.

## **ELIGIBILITY/GUIDELINES**

- Applicant must be either:
  - a current water operator or
  - seeking to enter the water operator profession
- Applicant must be pursuing one of the following:
  - an Operator's License or Certification,
  - two or four-year degree related to the water operator profession, or
  - professional development.
- Disbursement of the funds will be made directly by the Section to the financial office of recipient's college, registration, conference, university, or technical school.
- Applicant must reside or work within the geographical boundaries of North Dakota.
- Acceptance of scholarship constitutes permission to use recipient's name and scholarship story for purpose of promotion.



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## APPLICATION PROCESS: DEADLINE/SELECTION/PRESENTATION

1. Complete the application form including an essay of career objectives
2. Submit application by November 1<sup>st</sup>, 2020 by email to [adam.zach@ae2s.com](mailto:adam.zach@ae2s.com) or to address below:

AE2S – Attn Adam Zach  
4170 28<sup>th</sup> Ave S  
Fargo ND, 58104





# The **One AWWA** Operator Scholarship APPLICATION

## APPLICANT INFORMATION

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

## EMPLOYMENT/EDUCATION INFORMATION

Employer/Educational Program: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_ Current Position: \_\_\_\_\_

Number of Years at Job: \_\_\_\_\_ Operator Level: \_\_\_\_\_

Member of AWWA: ☒ Yes ☐ No

Veteran: ☐ Yes ☒ No

## HOW YOU WILL USE THE SCHOLARSHIP FUNDS

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> 2- or 4-year Water Operator Related Degree     | <input type="checkbox"/> Technical School  | <input type="checkbox"/> Operator Certification or Licensure |
| <input type="checkbox"/> Professional Development Program or Conference | <input type="checkbox"/> Books and Manuals |  |

## ATTACH THE FOLLOWING TO THIS APPLICATION FORM:

- An essay (approximately 500 words or less) of career objectives and how this scholarship will enhance your ability for professional development and bring value to the water industry.


## CERTIFICATION

*I certify that the information included in this application is true and complete to the best of my knowledge and I grant permission to AWWA's Water Equation and sponsoring Section to release my name and award for promotional use.*

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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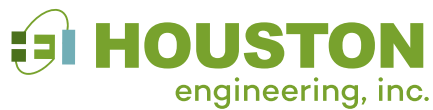
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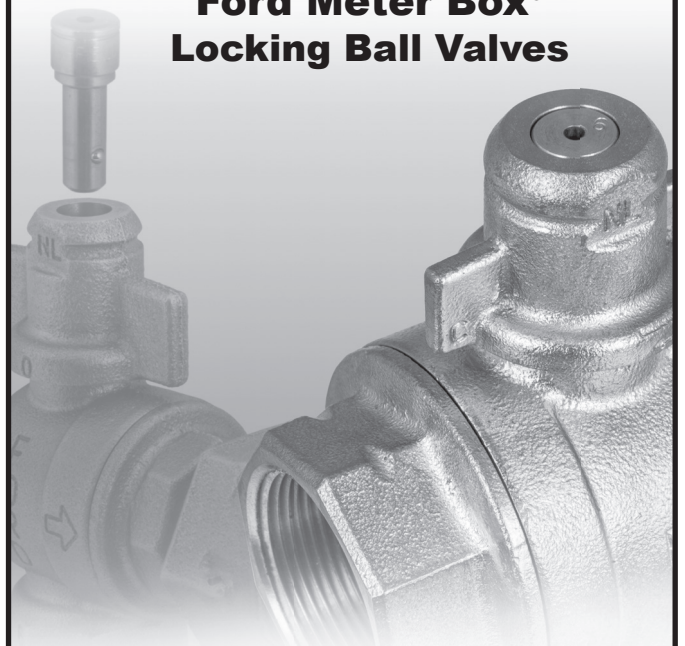
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**NOTICE** | August 13, 2020

## **Clean Water and Drinking State Revolving Fund Programs to offer Roundtables**

BISMARCK, N.D. – The North Dakota Clean Water and Drinking Water State Revolving Fund (SRF) Programs will be offering monthly roundtable discussions through Microsoft Teams from October 2020 to February 2021. Participants will have the opportunity to explore all aspects of both SRF Programs and ask questions of program staff. Roundtable sessions will be held on the following dates:

- **Tuesday, October 20, 2020 1:30PM to 3:00PM CST**
- **Tuesday, November 24, 2020 10:00AM to 11:30AM CST**
- **Wednesday, December 16, 2020 3:00PM to 4:30PM CST**
- **Thursday, January 14, 2021 9:00AM to 10:30AM CST**
- **Friday, February 12, 2021 1:00PM to 2:30PM CST**

If your firm is interested in a session outside the scheduled monthly roundtables, the SRF staff would be happy to accommodate requests.

To register, please indicate the desired session and email to [ndpfa@nd.gov](mailto:ndpfa@nd.gov) or contact DeAnn Ament at 701-426-5723. Registration will be limited to 10 for each session.

---

### **For more information contact:**

Shannon Fisher, Manager, Drinking Water State Revolving Fund Program  
PHONE: 701-328-5220 | EMAIL: [smfisher@nd.gov](mailto:smfisher@nd.gov)

Elizabeth Tokach-Duran, Manager, Clean Water State Revolving Fund Program  
PHONE: 701-328-5256 | EMAIL: [etokachduran@nd.gov](mailto:etokachduran@nd.gov)

918 East Divide Ave | Bismarck, ND 58501-1947  
[www.deq.nd.gov](http://www.deq.nd.gov)

DeAnn Ament, Executive Director, ND Public Finance Authority  
PHONE: 701-426-5723 | EMAIL: [dament@nd.gov](mailto:dament@nd.gov)  
1200 Memorial Highway | Bismarck, ND 58504

On June 18, 2019, the U.S. Environmental Protection Agency (EPA) issued a final action regarding the regulation of perchlorate under the Safe Drinking Water Act (SDWA). Considering the best available science and the proactive steps that EPA, states and public water systems have taken to reduce perchlorate levels, the agency has determined that perchlorate does not meet the criteria for regulation as a drinking water contaminant under the SDWA. Therefore, the agency is withdrawing the 2011 regulatory determination and is making a final determination to not issue a national regulation for perchlorate at this time.

EPA also performed a new health impact analysis based on recommendations from the Science Advisory Board. The new analysis shows that the concentrations at which perchlorate may present a public health concern are higher than the concentrations considered in the 2011 regulatory determination.

The updated occurrence information and the new health impact analysis are the best available information. Based on this updated data and analysis, EPA is making a final determination that perchlorate is not found in drinking water with a frequency and at levels of public health concern to support a meaningful opportunity for health risk reduction through a national perchlorate drinking water regulation.

For more information visit: <https://www.epa.gov/sdwa/perchlorate-drinking-water>

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Inspections: South Central	Joshua Upgren Marlon Bell	701-328-6623 701-328-5221
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