If you set the bar at competence, how do you reach excellence?

Apex
Engineering Group
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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The services and products of the following represented firms are deserving of your best consideration.

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CONFERENCES BUSINESS PHONE: 701-328-6627

The advertising contained in the Official Bulletin describes the products and services offered by companies in the water and wastewater industries. The listings are paid advertising. The publishers of the Official Bulletin, members of the North Dakota Water and Pollution Control Conference and the water and wastewater organizations that support its publication are not responsible for the accuracy of the advertisements nor any claims made therein.

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

On The Cover: Main and Broadway Fargo, ND - Adobe Stock

OFFICIAL BULLETIN, May - August 2021
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## 2021 ND Water and Pollution Control Conference Activities

**October 12-14**

### Updated Requirements for Backflow Regulations
- **Monday** 1:00 p.m. – 5:00 p.m.
  - Frontier Room

### pH Certification
- **Tuesday**
  - 9:00 a.m. - 11:00 a.m.
  - Mezzanine Suites III

### YP Poster Competition
- **Wednesday**
  - 9:00 a.m. – 10:30 a.m.
  - South Conference Corridor

### Registration
- **Tuesday**
  - 8:00 a.m. - 5:00 p.m.
- **Wednesday**
  - 8:00 a.m. - 5:00 p.m.
- **Thursday**
  - 8:00 a.m. - 10:00 p.m.
  - Atrium/Press Room

### Meals
- **Tuesday Lunch**
  - 11:30 a.m.
  - Sterling and Crowne Rooms
- **Tuesday Buffet**
  - 5:00 p.m. – 7:00 p.m.
  - Harvest Hall
- **Wednesday Free Buffet Breakfast**
  - 8:00 a.m. - 10:00 a.m.
  - Sponsored by Vendors and Suppliers
  - The Great Hall/Pool Patio
- **Wednesday Lunch**
  - 11:45 a.m.
  - Pool Patio
- **Wednesday Social**
  - 5:30 p.m.
  - Pool Patio
- **Wednesday Banquet**
  - 6:30 p.m.
  - The Great Hall
- **Thursday Lunch**
  - 12:00 p.m.
  - Sterling and Crowne Rooms

### tabletop Display Program
- **The Great Hall**
- **Tuesday**
  - 8:00 a.m. - 5:00 p.m.
  - Check in at the Registration Desk
- **Tuesday**
  - 7:00 p.m. - 9:00 p.m.
  - Setup Time
- **Wednesday**
  - 7:00 a.m. - 7:30 a.m.
  - Last Chance Setup Time
- **Wednesday**
  - 7:30 a.m. - 11:30 a.m.
  - Display Hours
- **Wednesday**
  - 1:30 p.m. - 3:30 p.m.
  - Takedown Time

### Golf Tournament
- **Tuesday**
  - 1:00 p.m.
  - Village Green
  - 3421 30 Ave S
  - Moorhead, MN 56560

### Entertainment
- **Wednesday**
  - 6:00 p.m. – 6:45 p.m.
  - Patrick Kirby
  - The Great Hall

### Field Trips
- **Tuesday**
  - 2:00 p.m. – 4:00 p.m.
  - 1. Moorhead Lift Station and Control Room
  - 2. Fargo Water Treatment Plant

### Local Arrangements Committee
- Josh Kadrmas
- Marisha Lunde
- Michael Quamme
- Dean Sletten
- Marisa Solberg

---

**OFFICIAL BULLETIN, May - August 2021**

3
2021 ND WATER AND POLLUTION CONTROL CONFERENCE MEETING SCHEDULE

Monday

1:00 p.m. – 5:00 p.m. Preconference Workshop
Updated Requirements for Backflow Regulations
Mitch LeBas/ND Department of Environmental Quality
Frontier Room

7:00 p.m. Preconference Meeting
North Dakota Section of the American Water Works Association (NDAWWA)
Prairie Room

Tuesday

7:30 a.m. Officers Meeting
NDAWWA
Prairie Room

8:00 a.m. Officers Meeting
North Dakota Chapter of the American Public Works Association (NDCAPWA)
Frontier Room

8:00 a.m. Officers Meeting
North Dakota Water Environment Association (NDWEA)
Board Room

9:00 a.m. – 11:00 a.m. pH Certification
Mezzanine Suite III

9:30 a.m. Officers Meeting
Joint Board of Directors of the North Dakota Water and Pollution Control Conference (NDWPC), NDCAPWA, NDWEA, NDAWWA, NASECA-ND
Executive Room

10:30 a.m. AWWA Committee Meetings
NDAWWA
Frontier Room

11:30 a.m. Business Meeting
NDWEA
Sterling and Crowne Rooms

1:30 p.m. – 4:30 p.m. Concurrent Sessions
Dakota Hall, Executive and Board Rooms, Directors and Conference Rooms

(Over)
Wednesday

9:00 a.m.  Annual Meeting
North Dakota Chapter of the North American Stormwater and Erosion Control Association (NASECA-ND)
Mezzanine Suite I

9:00 a.m.  Annual Public Works Directors and City Engineers Meeting
Mezzanine IV

9:00 a.m.  North Dakota Operator Certification Advisory Committee Meeting
Mezzanine III

12:00 p.m.  Business Meeting
NDCAPWA
Pool Patio

1:30 p.m. - 4:30 p.m.  Concurrent Sessions
Dakota Hall, Executive and Board Rooms, Directors and Conference Rooms

Thursday

8:00 a.m. - 11:30 a.m.  Concurrent Sessions
Dakota Hall, Royale, Embassy A and B

12:00 noon  Business Meetings
NDAWWA and NDWPCC
Sterling and Crowne

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2022 – Bismarck, October 11-13, Ramkota Hotel
2023 – Grand Forks, October 17-19, Alerus Center
2024 – Minot, October 15-17, Clarion
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MEMORANDUM

TO: North Dakota Water and Pollution Control Conference Supporters

FROM: Shawn Heinle  
Secretary/Treasurer

RE: Funding of Door Prizes, Social Hour, Hospitality Night, and Golf Tournament Awards at the 93rd Annual Convention

DATE: June 24, 2020

The 93rd Annual Convention of the North Dakota Water and Pollution Control Conference will be held on October 12, 13, and 14, 2021, at the Holiday Inn in Fargo. Meeting jointly with the Conference will be 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.

The joint board has asked me to solicit funding for door prizes to be awarded at the coffee breaks, noon luncheons, and after the golf tournament. The donations will also be used to support a social hour before the annual convention banquet.

It is still the intention of the board to welcome hospitality rooms sponsored by those firms or businesses wishing to do so. However, many supporters cannot sponsor a hospitality room because of company policy or liability concerns. The funding of door prizes and the social hour offers another opportunity to support the convention.

All supporters donating funds will be listed in the conference program, published in the Official Bulletin, and displayed on the convention poster board. Certificates will be presented to all convention supporters with those donating up to $100 receiving silver certificate awards, between $101 and $250 gold certificate awards, and more than $250 platinum certificate awards.

Supporters wishing to donate funds by credit card can go to the Eventbrite registration link located at the following webpage https://deq.nd.gov/MF/NDWPCC/default.aspx. Also, you can complete the enclosed form and mail it along with a check payable to the North Dakota Water and Pollution Control Conference (NDWPCC) to:

North Dakota Water and Pollution Control Conference  
2639 East Main Ave.  
Bismarck, ND 58501

The Secretary of State has granted the Conference a Charitable Solicitation Registration, SOS ID# 0004010721, in accordance with Chapter 5022 of the North Dakota Century Code. The registration is valid until September 1, 2021 and is renewed annually.

Thank you for your support of the annual convention and its various activities promoting water, wastewater, and public works.

SH:Il  
Enc.
60 Years of Building Strong Communities

Thank you to the amazing communities we’ve partnered with over the past 60 years.

Water treatment facility upgrades in Beulah, ND.
11:30 a.m.
Luncheon and Business Meeting, NDWEA
Sterling and Crowne Rooms
President Greg Stack, Presiding

NDWPCC
TUESDAY, OCTOBER 12, 2021
AFTERNOON CONCURRENT SESSIONS

Welcome: Fargo Mayor Tim Mahoney, Bruce Grubb, City Administrator, and Brenda Derring, City Engineer
NDWEA President Greg Stack
Guest Speaker:

**Session A**
Dakota Hall
Moderator:

1:30 p.m.
Title: Distribution Survey Results
Speaker: Josh Seerup, NDDEQ

2:00 p.m.
Title: PFAS in North Dakota
Speaker: Stacey Herreid, NDDEQ

2:30 p.m.
Title: Backflow Guidance
Speaker: Mitch LeBas, Backflow Prevention Services

3:00 p.m.
Title: Revised Lead/Copper Rule
Speaker: Sandi Washek, NDDEQ

3:30 p.m.
Title: Staffing Lessons during COVID
Speaker: Various ND Cities

**Session B**
Executive and Board Rooms
Moderator:

1:30 p.m.
Title: Emerging Regulatory Issues
Speaker: NDDEQ

2:00 p.m.
Title: Wastewater COVID Testing Results
Speaker: Marty Haroldson, NDDEQ

2:30 p.m.
Title: Industrial Pretreatment: Dental Amalgams
Speakers: Marty Haroldson, NDDEQ, Karla Olson, Apex

3:00 p.m.
Title: Staffing Lessons during COVID
Speakers: Various ND Cities

**Session C**
Directors and Conference Rooms
Moderator:

1:30 p.m.
Title: Bismarck Street Utility – Process to Vote
Speakers: Gabe Schell and Brent Bogar, City of Bismarck

2:00 p.m.
Title: Moorhead WTF Improvements
Speaker: Seth Lynne, Apex

2:30 p.m.
Title: Fargo MWTF: Restarting a GAC Contactor
Speaker: Kristofer Knutson, Apex

3:00 p.m.
Title: Membrane Application in Red River Valley: Fargo WTP
Speakers: Qingang Chang, AE2S

Troy Hall, City of Fargo

3:30 p.m.
Title: Revised Lead/Copper Rule
Speaker: Sandi Washek, NDDEQ
**WEDNESDAY, OCTOBER 13, 2021**

**AFTERNOON CONCURRENT SESSIONS**

**12:00 p.m.** Luncheon and Business Meetings, Executive and Board Rooms

**NDCAPWA Session**

- Moderator: Gary Zuroff, City of Dickinson
- Speaker: Dean Sletten, Apex Bismarck Lead Service Line Replacement
- Speaker: Michelle Klose and Matt Routledge, City of Bismarck

**1:30 p.m.**

- Title: Phosphates for Corrosion Control
- Speaker: Steve Nelson, AE2S

**2:00 p.m.**

- Title: Sludge Reduction in Wastewater Stabilization Ponds
- Speaker: Terry Maier, Team Labs
- Title: Speed Dating for Small Wastewater Systems
- Speaker: Marty Haroldson, NDDEQ
- Speaker: Karla Olson, Apex

**3:30 p.m.**

- Title: Assessing and Maintaining the Health of your WTP Central Unit Process
- Speaker: Jacob Strombeck, AE2S

- Title: Speed Dating for Large Wastewater Systems
- Speaker: Marty Haroldson, NDDEQ
- Speaker: Karla Olson, Apex

**3:30 p.m.**

- Title: Speed Dating for Small Wastewater Systems
- Speaker: Marty Haroldson, NDDEQ
- Speaker: Karla Olson, Apex

**4:30 p.m.** Adjourn
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<th>Speaker</th>
<th>Session B Title</th>
<th>Speaker</th>
<th>NASECA-ND Session Title</th>
<th>Speaker</th>
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<td>8:00 a.m.</td>
<td>Practical Lessons from AWIA: How to Use the Data for Capital</td>
<td>Kristofer Knuston, Apex</td>
<td>Funding Infrastructure Improvements in Small Municipalities – Larimore, ND</td>
<td>Jarda Solc, AE2S</td>
<td>Using 2D Modeling to Develop Flood Risk</td>
<td>Amber Lefors, AE2S</td>
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<td>8:30 a.m.</td>
<td>More than Just a Tower – A Dive into the Design Considerations and Options for Elevated Tanks.</td>
<td>Michael Quamme, Apex</td>
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<td>9:00 a.m.</td>
<td>On-Site Sodium Hypochlorite Generation</td>
<td>Joseph Honner, HDR</td>
<td>Fargo Downtown Flood Protection WP42E</td>
<td>Randy Engelstad, Houston Engineering</td>
<td>Using Digital Tools and Crowdsourcing for Public Input on Drainage and Stormwater Issues</td>
<td>Amber Lefors and Andrea Boe, AE2S</td>
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<td>9:30 a.m.</td>
<td>The What, Where, &amp; Why’s of PFAS and Regional Project Showcase</td>
<td>Jacob Strombeck, AE2S</td>
<td>Marketing Your Wastewater Utility</td>
<td>Karla Olson, Apex</td>
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<td>10:00 a.m.</td>
<td>Break, South Foyer</td>
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July 29, 2021

Sienna Paquin
Municipal Systems (8P-W-MS)
U.S. EPA Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

Dear Ms. Paquin:

Attached is North Dakota’s Operator Certification Report for State Fiscal Year 2021. The submittal is being provided to ensure compliance with Federal Register, Vol. 64, No. 24 / Friday, February 5, 1999, P. 5921, Sec. III, and B. 2.

If you have any questions regarding the submittal, please contact Marlon Bell at 701-328-5221.

Sincerely,

David J. Bruschwein, P.E.
Director
Division of Municipal Facilities

DJB/mob
Attach.
cc: Shannon Fisher
    Marlon Bell
    Jacob Schafer
    Greg Wavra
    Jennifer Berg
North Dakota Operator Certification Program 2021 Annual Report to US Environmental Protection Agency

June 30, 2021
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Appendix A
   Water and Wastewater Facility Operators Certification State Law
Appendix B
   Water and Wastewater Facility Operators State Administrative code
Appendix C
   Attorney General’s Certification of Enforceability
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 2021. 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 (NDDEQ), Division of Municipal Facilities, 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

NDDEQ 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 2 represents the systems in compliance with the certified operator requirements.

**Table 1- Systems Matrix**

<table>
<thead>
<tr>
<th>Water System</th>
<th>Number of Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWSs</td>
<td>313</td>
</tr>
<tr>
<td>NCWs</td>
<td>65</td>
</tr>
<tr>
<td>NTNCWs</td>
<td>6</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Water Treatment</th>
<th>Water Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>Level</td>
</tr>
<tr>
<td>1A</td>
<td>1A</td>
</tr>
<tr>
<td>1</td>
<td>I</td>
</tr>
<tr>
<td>II</td>
<td>II</td>
</tr>
<tr>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>IV</td>
<td>IV</td>
</tr>
</tbody>
</table>

| 30               | 180                 |
| 8                | 74                  |
| 29               | 49                  |
| 36               | 7                   |
| 10               | 3                   |

**Table 2 – System Compliance Rates**

<table>
<thead>
<tr>
<th>Number of Facilities</th>
<th>In-Compliance</th>
<th>Compliance Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Treatment</td>
<td>113</td>
<td>79</td>
</tr>
<tr>
<td>Community Distribution Systems</td>
<td>313</td>
<td>213</td>
</tr>
<tr>
<td>Non-Transient Non-Community Treatment</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Non-Transient Non-Community Distribution Systems</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Total System Compliance</td>
<td>435</td>
<td>297</td>
</tr>
</tbody>
</table>
Non-compliance is a result of one of the following circumstances:
1. A certified operator has not been designated by the system’s owner.
2. The operator’s certificate has expired.
3. The operator’s certificate is not at the correct level for the facility they are operating.

Operator Certification Levels

The following are the qualifications for each grade of operator and correspond facility or system classification.

**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 33.1-19-01-07.

**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 requirement unless an exception is granted under section 33.1-19-01-07. 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 33.1-19-01-07.

**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 33.1-19-01-07. 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 33.1-19-01-07.

3. Operator Qualification

Active Operators

The State of North Dakota requires that each operator must have a High School Diploma or GED and have a defined minimum of on-the-job experience before taking an examination, and each operator must pass an exam appropriate for the classification to which they are applying. The state also requires separate treatment and distribution certificates. Active drinking water certificate counts are listed by category in Table 3. Many operators hold multiple certificates. North Dakota has a group of field inspectors, operators, staff engineers, rule managers and management that discuss changes to the exams when new rules are implemented or other significant changes to the knowledge, skills and abilities to any of their classifications of operators. Annually the OpCert coordinator works with operators to get feedback.

There were 1,152 Active certificates with 461 treatment certificates and 691 distribution certificates.

In North Dakota, an operator holding a Class II classification or higher is considered to have direct responsible charge.
Table 3 – Active Operator Certificates

<table>
<thead>
<tr>
<th>Grade</th>
<th>Water Treatment</th>
<th>Water Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>75</td>
<td>175</td>
</tr>
<tr>
<td>I</td>
<td>88</td>
<td>243</td>
</tr>
<tr>
<td>II</td>
<td>131</td>
<td>150</td>
</tr>
<tr>
<td>III</td>
<td>66</td>
<td>84</td>
</tr>
<tr>
<td>IV</td>
<td>101</td>
<td>39</td>
</tr>
</tbody>
</table>

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

Table 4 – Exam Pass Rates

<table>
<thead>
<tr>
<th>Level</th>
<th>Water Treatment</th>
<th>Pass Percentage</th>
<th>Level</th>
<th>Water Distribution</th>
<th>Pass Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>11 82%</td>
<td>IA 17 94%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>24 54%</td>
<td>I 31 61%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>13 39%</td>
<td>II 23 22%</td>
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<td></td>
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<tr>
<td>III</td>
<td>8 50%</td>
<td>III 2 50%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>3 67%</td>
<td>IV 3 67%</td>
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</tbody>
</table>

The average pass rate treatment exams was 58% percent, and the average pass rate for distribution was 59% percent. The overall pass rate for water treatment and distribution for state fiscal year 2021 was 58% percent, and the overall pass rate for water treatment and distribution for state fiscal year 2020 was 57%. 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 ≤ 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 NDDEQ 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 NDDEQ. 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 on-site, individual operator training sessions at no cost and classroom (in-person or virtual) 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 meet. 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 33.1-17, 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 2021, there were 1878 certifications, 71 certifications were 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 2021, no enforcement action was needed based solely on operator certification. Certification for one operator was revoked for falsifying records.
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 NDDEQ within three years of certification date. If any operator fails to meet any requirement of the mentioned requirements, then, NDDEQ 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.

Table 5–Operator Renewing Certificates

<table>
<thead>
<tr>
<th>Grade</th>
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<td>IV</td>
<td>101</td>
<td>39</td>
</tr>
</tbody>
</table>

Forty courses were approved for operator professional development, and approximately 564 attended the training courses. Many of these classes were held multiple times. 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 NDDEQ, 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://deg.nd.gov/MF/ and on our website calendar at https://deg.nd.gov/calendar.aspx.
6. Resources Needed to Implement the Program

Program resources continue to be provided through the collaborative effort of existing NDDEQ 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.

NDDEQ 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 NDDEQ 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 fund a portion of one agency staff member. All agency staff funding is provided through state general funds, 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 mentioned staff members. Under the current organization, North Dakota has sufficient resources to implement its operator certification program now and into the future.

7. 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.

8. 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. NDRWS), MAP, and the 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 NDRWSA and 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.

Normal operator training opportunities were disrupted because of the COVID-19 pandemic. However, many alternative training sessions were provided including a mix of online and in-person training events. Examples include online training offered for operators by Bismarck State College, AWWA, NDRWSA and MAP. NDDEQ offered more operator exam test dates in the second half of the state fiscal year than normal to alleviate issues created when prior exams were cancelled.

Ninety small system operators requested operator expense reimbursement for seventeen events in state fiscal year 2021.

**Drinking Water Meeting Groups**

Typically, the NDDEQ 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. These meetings were not held in state fiscal year 2021 because of the COVID-19 pandemic.

**Water newsletter**

The Official Bulletin (OB) is published 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.

**9. Program Review**

The last time the North Dakota Operator Certification Advisory Committee completed an external review was on October 09, 2019, in association with the 91st Annual NDWPCC Conference. An internal review by NDDEQ Drinking Water and Operator Certification Program staff was held September 13, 2019. NDDEQ continues to work toward developing a standardized approach to conducting both internal and external reviews. These meetings were not held in state fiscal year 2021 because of the COVID-19 pandemic but will be should held in state fiscal year 2022.
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. During COVID-19 pandemic, training and examinations were impacted but NDDEQ worked closely with its partners to hold alternate training classes (virtual or in-person) to replace cancelled training. Exams were rescheduled to provide opportunities for those needing to take exams. Within our workforce, no significant changes other than employees shifted to working remotely and eventually hybrid schedules.
Widseth covers all your municipal project needs.

<table>
<thead>
<tr>
<th>Wastewater Systems</th>
<th>Solid Waste/ Landfills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Systems</td>
<td>Site Grading and Drainage Plans</td>
</tr>
<tr>
<td>Streets and Storm Sewers</td>
<td>Groundwater Studies</td>
</tr>
<tr>
<td>Wetland Delineation/ Mitigation</td>
<td>Airport Improvements</td>
</tr>
<tr>
<td>Flood Control</td>
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</tr>
</tbody>
</table>

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East Grand Forks, MN, and Grand Forks, ND

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Providing communities with safe drinking water, reliable wastewater treatment, and water resources solutions.

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Minutes of the Special Board of Trustees Meeting  
North Dakota Section of AWWA  
July 22, 2020

The special summer meeting of the North Dakota Section of the American Water Works Association was held virtually through Teams on July 22, 2020. Present at the meeting were Chair Jeff Bryson Chair-elect, Adam Zach; Director, Dean Sletten; Past Chair, Fred Goetz; Trustees, Jim Lennington, Jim Kershaw, Troy Hall, and Alan Kemmet; Secretary/Treasurer Greg Wavra; and Co-Secretary, Meredith Quinn. Others attending the meeting were Mike Berg, Abby Ritz, and Joe Ferguson.

The meeting was called to order by Jeff at 8:03 a.m.

Secretary’s Report: Motion to approve Winter and Spring minutes [Dean/Fred]. Motion Passed

Treasurer’s Report: Motion to approve Treasurer’s Report [Dean/Troy]. Motion Passed.

NDWPCC Cancelled:

Virtual Business Meeting  
Dean reported the bylaws require a business meeting annually. AWWA will offer their webinar software to host the meeting virtually. The group expects that attendance will be low, but this is the best platform to host the meeting. Dean recommended both email and mailing to membership to spread the word about the business meeting. The Board agreed to hold the meeting on the same date as initially scheduled with the conference (Tuesday, October 13, 2020) with a Board meeting at 8:00am and the Business meeting at 11:00am. AWWA (Association) will provide a virtual speaker/visiting officer for the Business meeting. Meredith will confirm with Maggie if/how we have a moderator on the back end who will be our tech staff.

Items for Business Meeting  
Jim Kershaw and Alan will meet with Greg to complete the audit prior to the Business meeting. The new trustee committee will have a nomination for the meeting. New Trustee Committee includes Jim Kershaw, Greg Wavra, Dean Sletten.

2020 Awards  
Committee members include:  
Fuller Award: Joe Ferguson Chair, Members are past 5 Fuller winners  
Operator Meritorious: Greg Wavra, Dean Sletten, Shawn Heinle

Discussion was had about whether to have these awards without the conference. Dean recommended awarding all. Fred and Greg recommended holding off on the Fuller until next year since we cannot award in-person. Each committee will take these suggestions into consideration when making selections.
Water for People: The annual Water for People letter campaign associated with the golf scramble has raised $7,100 in 2017, $7,000 in 2018, and $6,400 in 2019. Charlie Vein, committee chair, submitted his recommendations but could not attend: *We could host a virtual golf outing, asking for sponsor donations like usual. Potentially could get access to short clips from a major professional outing intermixed with ads from individual company sponsors and have that in a half-hour time slot during the virtual conference. Or some kind of on-line golfing game where people could pay green fees and play as teams and compete with each other.* The Board expressed their support to the letter campaign and mentioned that donors could be listed in the OB.

Board input and discussion: Could NDAWWA offer a technical presentation and then a local social as a short virtual conference? Greg explained that the technical presentation timeframe would need to be at least 2 hours to get operator credit. Greg discussed how operators can get credits from virtual training and explained that an credit deadline extension has been given to operators of one-year due to COVID. NDDEQ is talking about spring training options and are planning spring training in March. Greg reported that the EPA small systems training will be held for 2-4 hours this October/November in the Northwest and Southeast parts of the state.

Committee Updates:

**By-Laws:** No action since Board Meeting last month. Mike will get committee together in next 2-3 weeks. Committee includes Troy Hall, Mike Berg, David Bruschwein, Meredith Quinn

**Investment Committee:** Mike reported the committee will get together in next 2-3 weeks and most decisions have been made and final decisions will be provided at Fall Board meeting. Committee members include Mike Berg, Dean Sletten, and Greg Wavra.

**Education & Research:** Adam reported the Surface Water Treatment Workshop 2021 Save-the-Date was sent out. The proposed dates are in May 2021. Adam confirmed everything for the spring operator Scholarship has been submitted to Greg. One of the scholarship winners cannot use the scholarship this fall so the only winner is Jace from Grand Forks Water Treatment Plant. He is aware we would like to put him in NDAWWA publications to promote the scholarship. Previous Minutes reported Board support for advertising this scholarship again in the fall.

**Membership:**

* **Website:** Abby reported that she’s been working with the web developer on NDAWWA website updates. Discussion included whether to update this website or wait until NDAWWA can become a part of the NDWPCC Website. Because the NDWPCC website committee was created in January and hasn’t met yet, Abby will update the NDAWWA webpage and that page can be added to whichever final location NDWPCC selects. Abby shared the link to the draft website with Board. [https://www.awwand.org/](https://www.awwand.org/) The Board
agreed governing documents would be valuable to add to the website including: Annual financial statements, Treasurer and Secretary reports, bylaws and strategic plan.

• **Newsletter:** Abby presented a draft Quarterly Newsletter she’d like to see sent to membership to improve member engagement. Troy mentioned staff at the Fargo Water Treatment Plant would like to be involved in helping on the membership committee.

• **Engagement:** To stay in touch with members, especially during COVID, Abby asked for Board support in taking on social media. This is a role she had previously with a non-profit as a volunteer. She’d post on AWWA webinars, drinking water legislation, conferences, training opportunities, and general posts on the importance of water like Minnesota and other Sections. Abby explained that events and meetings could be made available as Facebook live events. Abby would schedule posts on Facebook so they can go out throughout the month. Feedback from the Board was to concentrate on the website and newsletter before starting Facebook. Some Board members commented that they don’t use Facebook often and we may not see the value in the effort.

• **Retention:** Abby reminded Board members to reach out to the late and dropped members she assigned them and let Abby know as they hear back from contacts. Abby asked the Board if they wanted to appropriate funds for welcome packets and AWWA gear to new members? The Board asked Abby to get a cost together on a welcome packet. Abby mentioned interest in a retention campaign. Abby also shared with the Board that she is creating an interest survey for members who want to volunteer.

**AWWA/USDA Training:**

Dean reported that the first training was held in July
• 21 registered
• 11 participated on both days
• 5 were small systems
• 2 were consultants and
• 1 government.

Dean reported that next year there will be more virtual trainings. We as a Board need to decide how we’re going to handle this. The Association has an agreement with USDA and we’ll need to host/participate. Greg pointed out the repetitiveness in training in ND and wants training that isn’t repetitive. For instance, USDA will present on Cybersecurity but there are five to six (5-6) organizations in the state already doing this. With the most recent training NDAWWA was given four (4) options and chose the easiest option. Their will be a sub agreement for two (2) upcoming trainings that need Board signatures and approval. Greg reported that the AWWA small system workshop with MAP gives us the option to break it out regionally and tailor content to audience unlike the USDA trainings.

**Other Business:** Jim Lennington reported that with the cancellation of conferences, P.E.s are in need of credits by the end of the year and suggested advertising AWWA webinars as a continuing
education option and a benefit to membership. Greg reported that NDDEQ is going to try doing in-person social distanced training starting with plumbing board in late October.

**Adjournment:** Meeting adjourned at 9:50. [Dean/Jim Lennington].

Respectfully submitted,

Meredith Quinn  
Assistant Secretary- Treasurer
Minutes of the Board of Trustees Meeting
North Dakota Section of AWWA
October 13, 2020

The fall meeting of the North Dakota Section of the American Water Works Association was held virtually on October 13, 2020. Present at the meeting were Chair, Jeff Bryson; Director, Dean Sletten; AWWA Treasurer Jon Eaton; Trustees, Adam Zach, Jim Lennington, Jim Kershaw, Troy Hall and Alan Kemmet; Secretary/Treasurer, David Bruschwein; Assistant Treasurer, Greg Wavra. Others in attendance were AWWA Section Services Staff Maggie Vaulman, Mike Berg, and Abby Ritz.

The meeting was called to order by Mr. Bryson at 8:05 a.m. with introductions.

The Secretary’s Report was presented by Mr. Bruschwein. Mr. Zach moved to approve the minutes of the May 2020 Board Meeting. Mr. Sletten seconded, and the motion passed.

Mr. Wavra presented the Treasurer’s Report. As of October 1, 2020, the section had income of $25,587.96 and expenses of $7,235.39. This leaves a net income for the year-to-date of $17,352.57. The section has $57,468.69 in the checking and money market accounts. The section also has $85,270.43 in student support endowments and reserve accounts. Expenses are down significantly because of COVID. There are no liabilities. Mr. Sletten moved to accept the Treasurer’s report. Mr. Bryson seconded, and the motion carried.

Committee Reports

Education & Research
Mr. Zach reported that the committee is still soliciting for One AWWA Scholarships. There will be 2-$1,000 scholarships available. With COVID there was no spring science fair and the Surface Water Workshop was moved to 2022.

Membership
Ms. Ritz reported that she has been holding monthly committee meetings. They will be doing a virtual tabletop discussion at the end of the month on AWIA requirements. She is also working on a quarterly newsletter. She has also put together welcome letter for new members.

Water for People
Mr. Bruschwein and Wavra reported that letters have been sent out looking for donations even though there was not a golf tournament.

Water Utility Council
Mr. Berg reported that it will meet prior to the legislative session. Mr. Wavra the time frame and implementation of the Revised Lead and Copper Rule.
Mr. Zach took over presiding over the meeting as Mr. Bryson needed to depart.

**Young Professionals**
Mr. Sletten reported for the YP committee. At the time the committee doesn’t have any immediate plans. There is a concern about finding volunteers to keep this committee going.

**Investment Committee**
Mr. Berg covered options that the Section has for handling the reserves and scholarship. There are two options, hire a fiduciary to manage the funds for the Section or do it ourselves. There was a discussion of the pros and cons of the two options. Mr. Sletten moved that the Section set up an investment policy for the Section to do its own investments. Mr. Lennington seconded the motion and the motion carried. The committee will now go back and develop a draft policy which it will bring to the next Board Meeting.

**By-laws Committee**
Mr. Berg covered that the Association has a new standard by-law for sections to review. The committee will review the current by-laws against the existing by-laws report back to the Board.

**Director’s Report**
Mr. Sletten reported that ACE and other conferences have been cancelled, postponed or moved to virtual format. The loss of conferences and reduced membership has affected Association income. Luckily the Association has a substantial reserve, so it is ok as long as the pandemic doesn’t last too long. The Association Board of Directors has adopted a strategic plan that goes through 2025.

**Old Business**

**AWWA/MAP Small Systems Training:** Mr. Wavra reported that training will take place at the end of October with two 4-hour training sessions.

**AWWA/USDA Small Systems Training:** Mr. Sletten reported that the Section will go with the virtual trainings option for the USDA grant. Three trainings must be completed by the end of August 2021. One training will be in November and a second in December. Third training date has not been set yet. Training topics will be Optimizing Performance, Cybersecurity, and Rate Setting.

**New Business**

Details of the upcoming Section Business Meeting were covered.

Mr. Bruschwein did bring up the potential replacement for the Secretary/Treasurer. Options covered included finding a volunteer or looking at paid staff.
Mr. Sletten moved, and Mr. Kemmet seconded to adjourn the meeting. The Meeting adjourned at 9:55 a.m.

Respectfully Submitted

David Bruschwein
Secretary/Treasurer
DESK REFERENCE GUIDE TO EXHIBITORS IN THE TABLETOP DISPLAY PROGRAM

OCTOBER 13, 2021
7:30 a.m. to 11:30 a.m.

North Dakota Section of the American Water Works Association Water Taste Contest
North Dakota Section of the American Water Works Association Water for People
North Dakota Water Environment Association
North Dakota Chapter of the American Public Works Association
North Dakota Chapter of the North American Stormwater and Erosion Control Association

Ferguson Waterworks
1917 1st Ave N
Fargo, ND 58102
701-293-5511
FAX 701-232-8129
christopher.okeson@ferguson.com

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ND Rural Water Systems Association-
2718 Gateway Ave #201
Bismarck, ND 58503
701-258-9249
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KLM Engineering, Inc. is a structural engineering and inspection consulting firm located in Woodbury, MN. KLM services include telecom, asset management, design build, drone inspections, engineering, mixers, new construction, recondition, and much more. Our project team consists of experienced professionals and employs one of the largest NACE coating and AWS welding inspection staffs in the nation. At KLM, a customized approach is used on each project to deliver quality workmanship, streamlined communication and a superior level of client satisfaction.

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USDA-Rural Development is a federal government agency that provides loans and grants for water and wastewater improvements to rural communities and water districts.

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# 2021 Partnership Programs Award Winners

**Partnership Programs** celebrate award-winning utilities for their long-term commitment to optimizing operations, achieving outstanding performance, and protecting public health and the environment.

## Phase IV 15 Year Excellence in Water Treatment Award
- **California**
  - East Bay Municipal Utility District
  - Orinda Water Treatment Plant
- **South Carolina**
  - Greenwood Commissioners of Public Works
  - W.R. Wise Water Treatment Plant

## Phase IV 10 Year Excellence in Water Treatment Award
- **Kentucky**
  - Louisville Water Company
  - B.E. Payne Water Treatment Plant
- **North Carolina**
  - Orange Water & Sewer Authority
  - Jones Ferry Water Treatment Plant

## Phase IV 5 Year Excellence in Water Treatment Award
- **Colorado**
  - City of Longmont
  - Nelson-Flanders WTP
- **Michigan**
  - Grand Lakes Water Authority
  - Water Works Park
- **New Mexico**
  - Albuquerque-Bernalillo County Water Authority
  - Sandia Chama Water Treatment Plant
- **North Carolina**
  - City of Raleigh
  - D. E. Benton Water Treatment Plant

## 2021 First Year Presidents Award for Water Treatment
- **Colorado**
  - City of Longmont
  - Nelson-Flanders WTP
- **Michigan**
  - Great Lakes Water Authority
  - Water Works Park
- **New Mexico**
  - Albuquerque-Bernalillo County Water Authority
  - Sandia Chama Water Treatment Plant
- **North Carolina**
  - City of Raleigh
  - D. E. Benton Water Treatment Plant

## Phase III 20 Year Directors Award for Water Treatment
- **Texas**
  - City of Houston
  - East Water Purification Plant #3
- **South Carolina**
  - Spartanburg Water
  - R.B. Simms Water Treatment Plant
- **Vermont**
  - Burlington Public Works
  - Francis J. O’Brien WTP
- **West Virginia**
  - West Virginia American Water
  - Ada WTP (Bluefield)

## Phase III 15 Year Directors Award for Water Treatment
- **Alabama**
  - Birmingham Water Works Board
  - H.Y. Carson Filter Plant
- **Colorado**
  - Aurora Water Department
  - Griswold Water Purification Facility
  - Wemlinger Water Treatment Plant
- **Illinois**
  - Great Lakes Water Authority
  - Lake Michigan Water Treatment Plant
- **South Carolina**
  - Charleston Water
  - Wastewater Treatment Plant

## Phase III 10 Year Directors Award for Water Treatment
- **Georgia**
  - Atlanta-Fulton County Water Resources Commission
  - Tom Lowe Atlanta-Fulton County WTP
- **Pennsylvania**
  - Pennsylvania American Water
  - Stony Garden WTP (Blue Mountain System)
- **Virginia**
  - Newport News Waterworks Dept.
  - Hampton Roads Water Treatment Plant

## Phase III 5 Year Directors Award for Water Treatment
- **Alabama**
  - Alabama Power Company
  - Marion District WTP
- **Pennsylvania**
  - Pennsylvania American Water
  - Western Berks Water Authority
  - Tamaqua Water Treatment Plant

## Phase III First Year Presidents Award for Water Treatment
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  - Pennsylvania American Water
  - Rock Run Water Treatment Plant

## Phase III First Year Directors Award for Water Treatment
- **Georgia**
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  - Tom Lowe Atlanta-Fulton County WTP
- **Pennsylvania**
  - Pennsylvania American Water
  - Stony Garden WTP (Blue Mountain System)
- **Virginia**
  - Newport News Waterworks Dept.
  - Hampton Roads Water Treatment Plant

## Phase III Five Directors Award for Distribution System Operations
- **Texas**
  - San Jacinto River Authority
  - Woodlands Division
- **Illinois**
  - Central Arkansas Water
  - Illinois Water Authority

## Partnership for Clean Water
- **Pennsylvania**
  - Aqua Pennsylvania Wastewater
  - Wastewater Treatment Plant

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**Partnership for Safe Water**

- **2021 Partnership Programs**
- **Award Winners**

**Partnership for Clean Water**

- **2021 Partnership Programs**
- **Award Winners**

**Partnership for Safe Water Treatment**

- **2021 Partnership Programs**
- **Award Winners**

**Partnership for Clean Water**

- **2021 Partnership Programs**
- **Award Winners**
Emergency Preparedness

As wildfires and other extreme weather events take their toll on water system security, including a Public Safety Power Shutoff program as part of an emergency response plan can keep your system running when it counts the most.

BY YVONNE HEANEY, JIM WOLLBRINCK, AND BRUCE A. MACLER

WHAT CAN A WATER SYSTEM DO TO PREPARE FOR A POWER OUTAGE?

Imagine it’s a hot, windy day. Suddenly, your utility building’s lights flicker and the power is off. The heating, ventilation, and air-conditioning system sighs and goes quiet. The whine of your water system’s pumps and motors slows to an eerie silence. The supervisory control and data acquisition (SCADA) screens blink once and go dark. You think they’ll be back on in a minute or two, but the person on the radio (yes, you have a battery radio on your desk because you’re prepared) says something’s wrong all over the region. Or maybe it’s a text message from the local power company advising that high winds are coming and electrical distribution has been cut for a few days to prevent wildfires. You have some generators in place, but most don’t have automatic transfer switches. And the fuel tanks are low. What are you going to do?

After devastating wildfires in California in recent years, the state’s electric power companies began a Public Safety Power Shutoff (PSPS) program to help prevent fires caused by high winds damaging their transmission and distribution lines. At the beginning of summer 2019, the power utilities announced they’d begin preemptive PSPSs whenever conditions warranted—high temperatures, low humidity, high winds, and low vegetation moisture content. In October 2019, the first large-scale PSPS event occurred—one of three in October and November 2019. Most service areas were shut off for one to three days, but some areas were shut off for up to five days.
Everyone will be looking for generators when an event is about to happen, so getting a head start could be the difference between having backup power or not. State Water and Wastewater Agency Response Networks can make it easier to borrow a generator and other resources during a regional emergency.
Emergency Preparedness

PLANNING FOR POWER OUTAGES
The actual number of customers affected by the PSPS events wasn’t calculated by the power utilities, but more than 3 million service connections were cut off. The number of people affected could have been anywhere from 7 million on the low end to more than 10 million on the high end. Thousands of water systems were affected.

What did the PSPS events mean for water utilities? With only a few months’ notice, many water systems weren’t able to adequately prepare. Ultimately, those that couldn’t or didn’t fully prepare and then experienced prolonged periods of power outages had difficulty maintaining water in their systems and a host of other issues. Some unfortunate systems in California even lost all their water, depressurized, and went on boil-water notices.

Subsequently, the California Water/Wastewater Agency Response Network (CalWARN), the US Environmental Protection Agency (USEPA) drinking water program, California’s Division of Drinking Water, AWWA’s California–Nevada Section, and California power utilities began discussions to help water utilities prepare. USEPA’s Water Security Division held workshops and convened a work group to develop checklists (https://bit.ly/3iGENIK), California-specific guidance, and a standard operating procedure (SOP). These materials were used to help prepare the Power Resilience Guide for Water and Wastewater Utilities, available at https://bit.ly/2H4n7sp.

To successfully handle a planned or unexpected power loss requires preplanning, preparation, and an appropriate emergency response plan. PSPS events require an additional level of preparedness and a day or two to get things ready. That time shouldn’t be spent thinking about what to do but doing what needs to get done. This article presents some of the necessary steps utilities must take to prepare for these events. For the most part, work can be done well ahead of a PSPS event, so when the lights do go out, your primary job will be to watch, monitor, and maintain.

Preparation for PSPS events has two components: “blue-sky” planning done well before an anticipated shutoff and “48-hour warning” activities to prepare for the impending event. The topics are basically the same, but the work is quite different for critical infrastructure,

Planning, training, and exercises allow power and water utility staff to learn, practice, test, and improve emergency response plans and procedures.
At T minus zero, the lights flicker and the power is off. But you’re ready!

BLUE-SKY PLANNING FOR POWER OUTAGES

Critical Infrastructure. Treatment plants, wells, and booster stations are all examples of critical system components, but perhaps they don’t all need to run at the same time. Figure out what needs to run and when, and keep those details in mind while obtaining equipment. The concept of backup power is well-known, and many water systems already implement backup power at key stations. Typically, this takes the form of a generator. However, before the advent of a PSPS event, most systems wouldn’t have expected to go days running on backup power, nor would they anticipate running an entire water system on backup power supply. But what’s considered normal has changed, and many of the lessons learned during the 2019 PSPS events shed light on what it means to be resilient in a new age when having grid power isn’t a guarantee.

Generators. Once you know which of your facilities and equipment you need to provide power to, you’ll want to find a generator or appropriate power source. First, generators need to be sized based on the capacity of what they’re going to run. It typically takes a specialist to size these units properly. The sooner you get started on this, the better. Keep in mind that everyone will be looking for generators when the event is about to happen. Getting a head start could be the difference between having backup power or not, and that’s ultimately the difference between a wet or dry system. The US Army Corps of Engineers’ Emergency Power Facility Assessment Tool (EPFAT) is a useful way to evaluate your needs (https://bit.ly/3hxS8S1).

Is the generator fixed or portable? Portable generators provide versatility and can be moved around the water system if, when, and where needed. Be clever. Are there ways you can operate properly with fewer generators?

Fuel. Once you have a generator, remember it’s a machine that needs fuel. What type of fuel will it take—diesel, propane, natural gas? Be sure to know what you need and to have a supplier ready if you need more. Determine how long each generator can run before it needs more fuel. This will help you determine how long you can operate equipment and plan fueling routes to ensure everything keeps running.

Another important fuel consideration is keeping it clean. Be mindful of the containers used to store fuel. Some are fabricated of better material than others for long-term storage. Containers that aren’t airtight could cause bugs and debris to build up in the fuel, rendering it unusable. Take this seriously because dirty fuel will slow or even stop a generator from operating. Like dirty oil in a car, tainted fuel will reduce the equipment’s life span. Testing fuel integrity is an option, and some systems do this type of check regularly.

You can run smaller equipment on different types of backup power, including batteries and solar panels. Evaluate your options for small pumps, programmable logic controllers, analyzers, and more. Determine power consumption for devices and obtain appropriate power accordingly.

SCADA. Your SCADA system is just as important as having a reliable generator. Being able to see and run your system normally, likely without physically being present, is necessary to ensure adequate water flow. If your storage tanks can’t communicate with your source, the source can’t tell when the tank is draining or when it’s full. Things can quickly go awry if that happens. Don’t let SCADA technology be the weak link in your PSPS execution.
Emergency Preparedness

Communications. Internal parties in your organization, external emergency responders, and the public and media will require constant contact during a PSPS emergency. Keep cell phones charged and have backup options for long-term charging. Remember that cell towers also need electricity to function, and instances of cell service being unavailable during emergencies have been reported. Keep this in mind, and develop backup communication plans and options. You need to be able to direct staff, report to and inquire with outside parties, and interact with the public and media. All will likely have many questions about job duties; status updates; and, most important, water service availability.

Take time to build out other communication methods. Can you use radio or walkie-talkies (handheld radio transceivers) for internal communication? Do you have a landline that can function if cell service goes out? In a pinch, good old-fashioned face-to-face communication, with appropriate social distancing measures in place given the pandemic, will get the job done. Get a list of important people and addresses, and develop meeting plans and locations if necessary. You’ll also need to consider what you’ll tell the public. Draft appropriate messages to your customers on what they can expect. Develop fill-in-the-blank press releases for later use.

Partnerships. As the saying goes, you’re only as strong as your team. The better connected you are in terms of mutual aid for supplies and staffing, the more successful you’re going to be when a PSPS event happens. This is where help comes in. Build a strong network. Have connections, backup connections, and backups to the backups! It can be helpful to reach out before an event to discuss options with your partners or even just to let them know you may need their services soon.

State Water/Wastewater Agency Response Networks (WARNs) are an excellent resource to use in an emergency. WARNs allow users to reach out quickly and on a large scale to water systems within the WARN. WARNs can help coordinate all sorts of help, including staffing, supplies, equipment, and much more. WARNs are also typically plugged into state emergency operation centers, which provide another level of support during an emergency. Sign up for your state WARN well before an emergency happens. This will ensure you can use the network to its fullest during times of need. For details, visit www.awwa.org/warn.

Staffing. Enduring a prolonged PSPS event entails coordinating staffing levels as shifts modify to run a system more manually. Your system may need increased monitoring to ensure water supply, yet you only have a fixed number of staff. Understanding what will need to be watched and determining how much extra time may be needed will help you establish an appropriate schedule. Divvy up staff time to ensure key areas are covered and staff get much-needed rest. Expect things to go wrong, so plan for some flexibility in your

Transfer switches allow utilities to easily switch back and forth between grid power and on-site generator power sources.
PSPS response. Consider these factors as you build schedules.

Access. This may sound like a no-brainer, but issues arose in previous PSPS events regarding facility access. Do all staff have access to locked doors, gates, generator keys, etc.? Staff may need to access areas unexpectedly, so either set up accessibility for all staff or provide a mechanism to gain quick access during a PSPS event. Parties outside of your organization may need to gain access to your facilities as well. For example, fuel delivery trucks will need to reach the generator sites. There have been cases of the roads leading to facilities being blocked. Understanding where problems could arise and developing informed solutions ahead of time will save a lot of time and trouble.

Safety. As always, personal safety is of utmost importance. During moments of heightened activity, the propensity for shortcutting safety protocols increases the likelihood of making mistakes. Some mistakes can be life-threatening, so extra care should be taken to mitigate potential hazards. For a PSPS event, some safety concerns include heavy equipment operation, fume inhalation, and staff exhaustion. Spend time brainstorming other safety concerns. Keep those in mind, and practice, practice, practice.

48-HOUR WARNING ACTIVITIES

Generators. At 48 hours out, it’s time to do a last check of the generators and backup power options you’ve worked so hard to obtain. Do a physical inspection. Fire them up if possible. If your generator is on automatic start, can you simulate conditions and have it start and run under a full load? If you’re using batteries or solar cells, turn them on to ensure they function properly.

Fuel. Hopefully, you’ve maintained your fuel appropriately. Inspect it and check for any potential issues. Have backup suppliers ready to provide more fuel if and when necessary.

SCADA. At this point, you should have a backup power supply set up for your SCADA system. Because SCADA is such a vital part of running a water system, triple-check it will work. If your SCADA system goes down, it will cost staff a lot more time and energy to maintain the water system. Avoid burnout by keeping your SCADA system functioning.

Communications. Now is the time to hand out radios, walkie-talkies, and any other communication devices you may have on hand. Check batteries, obtain spare batteries, check landlines, etc. Check with staff about charging capabilities for their electronic communication devices. Charging devices in cars or with portable chargers is a great option. Remember that not only is the water system losing power, it’s also likely staff will lose power at their homes as well. Keep your devices fully charged as much as possible at this stage. Run a communications test to ensure equipment is working and staff members understand its operation.

It’s also time to provide information to your customers, civic leaders, and the media on what to expect and whom to contact. If you expect pressure problems, water shortages, or outages, they need to know.

Partnerships. Have your list of contacts ready. It’s time to touch base with your professional emergency response colleagues at your local and state agencies. Share what you know and what you might expect.

Staffing. Look over and adjust schedules as appropriate. Give enough buffer between shifts to allow for ample breaks, and be prepared for staff who may need to call out to attend to personal issues that arise from a PSPS event.

Access. Internally, double-check that all staff (even those who may not appear to need it) have avenues to access sites. Externally, be available for outside parties to contact you with site accessibility issues. Keep your list of partnerships available to help address accessibility.

Safety. Remind staff that no job is worth risking safety. Also, remind staff members of their training, and implement any safety procedures that have been developed.

T MINUS ZERO AND ONWARD

At T minus zero, the lights flicker and the power is off. But you’re ready! Although this article addresses ways to prepare for this moment, be sure your PSPS SOP fully describes activities at T minus zero as well as T plus 24 hours and beyond. Power loss can have devastating impacts on drinking water and wastewater utilities and the communities they serve. Act now to increase power resilience at drinking water and wastewater utilities.

Authors’ Note: The views expressed in this article are solely those of the authors and don’t necessarily reflect their respective agencies or organizations.
Introduction Letter from AWWA’s President,

Chi Ho Sham

Growing up and living in Hong Kong, then a British Colony at the mouth of the Pearl River, I lived through daily boil water “orders” issued unilaterally by my mom, severe water shortage with tap water delivered for four hours every four days, and multiple waterborne disease scares such as typhoid fever, cholera, and Hepatitis A. My early experience with drinking water challenges most certainly had something to do with making me a “water nerd.”

I moved from Hong Kong to Canada and then to the U.S. to pursue my education. Following a few twists and turns in my life’s journey, I ended up settling in Boston for my career and to raise a wonderful family. Luckily, I did not grow up with baseball, hockey, and football so I don’t have to compare notes with other AWWA sport fans when various sporting seasons are on. It has spared me from discussing sporting events and scandals multiple times.

I got a lot out of my education in North America; I was able to broaden my view and become more holistic. I studied planning, earth science, social science, and even art history (which came in handy at a few cocktail parties). Along the way, I picked up many skill sets and ended up becoming a hydrologist who uses statistical modeling, geospatial analysis, and system theory. I took a couple of civil engineering courses while working on my doctoral program at the University at Buffalo and ended up combining what I learned on rainfall-runoff relationship with drainage basin geomorphic properties to analyze the water supply conditions in Hong Kong.

I began my professional career as a faculty member at Boston University in 1982. After spending 10 years there, I switched to consulting work under the Safe Drinking Water Act and Clean Water Act. In my capacity as a scientist, I work with water utilities, governmental agencies, research organizations, advocacy groups, engineering firms, laboratories, manufacturers, and international institutions on a wide range of water related issues. Through these efforts, I have learned about the different points of view, expertise, skill sets, and cultures across different entities, and how to find common ground to work together to solve difficult problems.

In addition to being a scientist, I am an educator at heart. I enjoy leading workshops, giving seminars, working as an adjunct professor, and interacting with students and young professionals. From 2018 to 2021, I have been a member of our very own Young Professionals (YPs) committee. I believe it is vital to attract, educate, and empower future generations of water professionals to keep our industry vibrant.

My journey with AWWA has been a long and fruitful one. It started in 1989 when I joined the New England Water Works Association, a Section of AWWA (NEWWA). I am a big fan of Sections. Because of the vastness of North America and the local nature of water, Sections are in the best position to understand their unique challenges and viable solutions to overcome these challenges. The two way exchange of ideas between Sections and the Association allow all of us to work together and develop optimal solutions to address difficult and complex problems.
After serving as a volunteer at NEWWA, I was recruited by the Association’s Source Water Protection Committee in 2002. Since then, I have served on many volunteer units under the Technical & Educational Council (TEC) and the Standards Council. As the chair of TEC from 2017 to 2020, I had the pleasure to serve on the Board of Directors and the Executive Committee of AWWA. When I was encouraged to run for the position of President of AWWA, who am I to say, “no” to this amazing opportunity to be able to work with everyone at AWWA to advance our vision to make a better world through better water.

As the President of AWWA, my thoughts have been on all the core principles of AWWA, which have been well thought out by the strategic plan development team led by our Past-President, David Rager. To narrow down what I believe I can reasonably accomplish in my tenure as the President of AWWA, I have identified three main themes.

1. **Promote strategic collaboration** through knowledge creation and sharing both inside and outside of AWWA at the local, regional, and international levels.
2. **Advance creative solutions** through promotion of innovation to generate solutions to overcome a wide range of problems such as contaminant removal, microbial inactivation, effective utility management, land and water connection, cost saving, and out-of-the-box financing.
3. **Celebrate** all the great work done by water professionals to protect public health, safeguard our environment, create jobs, advance diversity and inclusion, and making a difference in the world.

To keep it simple for me to remember, I am using three C’s to remind me of these three primary themes – that is, Collaboration, Creativity, and Celebration.

I know I cannot get all this work done on my own, so I am getting help from the best people in the world – i.e., the amazing volunteers at AWWA. I have started a couple of initiatives on collaboration, innovation, and celebration.

In June and July, we have partnered with the U.S. Army Corps of Engineers, Aquatic Plant Management Society, and North American Lake Management Society in developing and executing a collaborative webinar series on Harmful Algal Blooms and Drinking Water (see [https://corpslakes.erdc.dren.mil/employees/invasive/exchange.cfm?Option=ArchiveSchedule&CoP=invasive](https://corpslakes.erdc.dren.mil/employees/invasive/exchange.cfm?Option=ArchiveSchedule&CoP=invasive)).

In July, AWWA supported the American Water Resources Association’s Virtual Summer Conference on Connecting Land and Water for Healthy Community. I was honored to be one of the members of the Closing Panel Session to speak about the importance of the land and water connection of water supply protection (see [https://www.awra.org/Members/Events_and_Education/Events/2021_Summer_Conference.aspx](https://www.awra.org/Members/Events_and_Education/Events/2021_Summer_Conference.aspx)).

There will be more to come and I would hope that I will get your support on some of them in the near future. By the way, please do not hesitate to contact me if you would like to share ideas, just want to chat, or help me with my three C’s. You can get my contact information from Ashley Bruchis (abruchis@awwa.org). You can also find me on LinkedIn ([https://www.linkedin.com/in/chi-ho-sham-9702b1a/](https://www.linkedin.com/in/chi-ho-sham-9702b1a/)). I am sincerely looking forward to seeing you at various conferences in the near future. Hope to see you in San Antonio in June 2022.
## Drinking Water Program Directory

<table>
<thead>
<tr>
<th>Program Administrator</th>
<th>Phone</th>
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<tbody>
<tr>
<td>Greg Wavra</td>
<td>701-328-5257</td>
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<tr>
<td>Jacob Stokes</td>
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<tr>
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<tr>
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<tr>
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<td>Gregg Stewart</td>
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<tr>
<td>Mike Trythall</td>
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<tr>
<td>Jake Schafer</td>
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<td>Marlon Bell</td>
<td>701-328-6623</td>
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<td>Sandy Washek</td>
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<td>Craig Bartholomay</td>
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<td>Josh Seerup</td>
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<td>Mike Trythall</td>
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## North Dakota Pollutant Discharge Elimination System Program Directory

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<th>Program Administrator</th>
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<tbody>
<tr>
<td>Marty Haroldson</td>
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<tr>
<td>Brady Espe</td>
<td>701-328-5228</td>
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<tr>
<td>Rachel Strommen</td>
<td>701-328-5244</td>
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<tr>
<td>Sarah Waldron-Feld</td>
<td>701-328-5237</td>
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<tr>
<td>Dallas Grossman</td>
<td>701-382-5242</td>
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<tr>
<td>Sam Devries</td>
<td>701-328-5236</td>
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<tr>
<td>Sarah Waldron-Feld</td>
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</tr>
<tr>
<td>All Staff</td>
<td>701-328-5210</td>
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<tr>
<td>Marty Haroldson</td>
<td>701-328-5234</td>
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<tr>
<td>Emily Joynt</td>
<td>701-328-5239</td>
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<tr>
<td>Emilee Lachenmeier</td>
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Central Phone: 701-328-5210  Fax: 701-328-5200
NDDEQ & MAP Offer Backflow Prevention Trainings Through Backflow Prevention Services

Backflow Prevention Services Bootcamp Training

November 9 - 11
McKenzie County Courthouse
201 5th St NW, Watford City, ND 58854

Contact Brian Day
Technical Assistance Provider
Midwest Assistance Program, Inc.
P.O. BOX 912
Mandan, ND 58554
701-214-8315

Backflow Prevention Services Bootcamp Training

November 16 - 18
Days Inn by Wyndham Fargo/Casselton
2050 Governors Dr, Casselton, ND 58012

Contact Karen Thomas
Midwest Assistance Program
Technical Assistance Provider
Office (701) 595-3696
Cell (805) 341-2188

Backflow Prevention Services Bootcamp Training

December 1 - 3
Minot Public Library
516 2nd Ave SW, Minot, ND 58701

Contact Brian Day
Technical Assistance Provider
Midwest Assistance Program, Inc.
P.O. BOX 912
Mandan, ND 58554
701-214-8315
Save the Date

36th Annual Water EXPO
February 1-3, 2022
Fargo, ND

Technical, managerial, and financial training will be provided to increase system sustainability and enhance the quality of life in North Dakota.

Delta Hotels by Marriott Fargo
Reservations: 701.277.9000

Candlewood Suites
Reservations: 701.282.6006

A block of rooms has been reserved under “Rural Water”

Earn up to 8 CECs for attending the Rural Water EXPO