

OFFICIAL BULLETIN

VOLUME 109

OCTOBER - DECEMBER 2021

NUMBERS 10-12

WINTER ISSUE



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Jake Schafer

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NDWPCC Officers
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OFFICIAL BULLETIN

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

Winter Issue

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If you are interested in submitting articles please contact the editor, Jake Schafer at jrschafer@nd.gov.

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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.

CONFERENCE BUSINESS PHONE: 701-328-6627

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

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

On the cover: BNSF Railroad bridge near Bismarck Water Treatment Plant - Rachel Iverson Schafer



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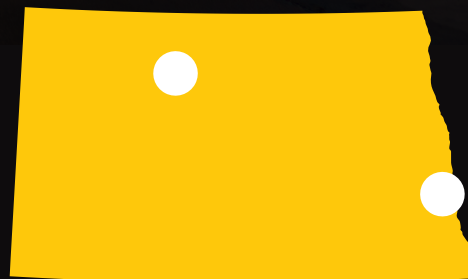


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Current Status of the US Environmental Protection Agency Long-Term Lead & Copper Rule (LCRR)

On December 16, 2021, the U.S. Environmental Protection Agency (EPA) announced that the current Lead and Copper Rule Revisions (LCRR, originally published on January 15, 2021, in the Federal Register, 86 FR 4198) will go into effect to support development of actions to reduce lead in drinking water. EPA has directed states and public water systems to prioritize developing lead service line inventories which must be submitted by the compliance date October 16, 2024. The intent of the LCRR is to identify and replace lead pipes in communities across the nation.

In addition, EPA announced additional proposed rulemaking that will build on the LCRR rule's provisions. The additional rule changes will be known as the Lead and Copper Rule Improvements (LCRI).

EPA plans to announce details of the Lead and Copper Rule Improvements (LCRI) before the October 16, 2024, compliance date, which will entail any changes to the following aspects of the LCRR rule:

- Lead Service Line Replacement Plans
- Compliance Tap Sampling Plans/Protocols
- Action and Trigger Levels
- Prioritizing Historically Underserved Communities

EPA may also incorporate changes related to funding, collaboration with schools and childcare facilities, and communication and guidance with the LCRI. Depending on the nature of the LCRI changes, later compliance dates for certain requirements may also be announced with the LCRI changes. NDDEQ will update systems with information on the LCRI changes once they are confirmed.

Requirements for Community Water Systems and Non-Transient Non-Community Water Systems by October 16, 2024 Deadline

All Community Water Systems (CWS) and Non-Transient Non-Community Water Systems (NTNC); must begin working on their Lead Service Line inventories.

These systems will need to identify all service line materials, in all type of buildings whether commercial, industrial, or residential and on both the public and private side of the system. The material categories will be designated as: lead, galvanized, non-lead, plastic, or unknown service lines. Unknown service lines will be treated as Lead Service Lines (LSL) and will need to be replaced or identified in the future. In addition, all partial service lines that contain lead and other pipe material will be considered a lead service line and will also need to be replaced in the future under the Lead Service Line Replacement Plan.

Goosenecks, pigtails, and service line connectors will not be required in the inventory. But it is **STRONGLY** recommended that if a CWS or NTNC Water Systems have records of any lead connectors, goosenecks, or pigtails, that the systems add it to the LSL inventory form. All systems will be required to replace any lead connectors, pigtails, or goosenecks they encounter while removing and replacing LSL's or during regular maintenance.

NDDEQ will be sending out a memo to all CWS and NTNC Water System contacts which will include a Lead Inventory spreadsheet and directions on how to fill-out the form. The LSL inventory form **must be completed and submitted to NDDEQ by October 16, 2024**. Under the LCRR some CWSs with populations of 50,000 or greater will be required make the Lead Service Line Inventory information publicly accessible on the city's or CWS system's website. All other CWS & NTNC Water Systems will be required to have the inventory accessible to the public if requested.

Additional information that is required to be submitted by October 16, 2024 are the Lead & Copper Rule Sample Site Plans and the Lead Service Line Replacement Plans. However, under the proposed Lead and Copper Rule Improvements (LCRI) regulation change, the following items are subject to change which may cause a proposed change in compliance dates. EPA has proposed changes under the LCRI (if the rule is published) to include:

- Lead Service Line Replacement Plans
- Compliance Tap Sampling Plans/Protocols
- Action and Trigger Levels
- Prioritizing Historically Underserved Communities

NDDEQ will be sending out guidance and additional information on how the CWS & NTNC Water Systems will be sending in the Lead Service Line Inventories, Lead & Copper Sample Site Plans & Lead Service Line Replacement Plans in future correspondence.

If you have any additional questions, please call the Division of Municipal Facilities Lead & Copper program at 328.5211

NDWPCC JOINT BOARD OFFICERS MEETING MINUTES
October 12, 2021
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 October 12, 2021, in the Executive Room of the Holiday Inn, Fargo, ND. The following board members and guests were present: Chloe Anderson, Shawn Heinle, Jeff Hruby, Jasper Klein, Jesse Kist, Eric Lothspeich, Seth Lynne, Lance Meyer, Dennis Miranowski, Matt Moltzan, Tim Paustian, Michael Quamme, Karl Rockeman, Jake Schafer, Gabe Schell, Scott Schneider, Luci Snowden, Matt Sperry, Don Wald, Greg Wavra, and Gary Zuroff.

The meeting was called to order at 9:36 a.m. by NDWPCC President Michael Quamme. Copies of the meeting agenda and January 1 through October 7, 2021, financial report was provided to those in attendance.

For the first order of business President Quamme called for a motion to dispense with the reading of the minutes from the May 20, 2021, minutes and approve the copy mailed to all board members. Jake Schaefer so moved, Greg Wavra seconded, and the motion carried.

Next, President Quamme called for the Treasurer's Report. Shawn Heinle read the 2021 NDWPCC financial report, which showed a net gain of \$53,533.93 and total assets of \$198,800.75. President Quamme asked for any discussion. Gabe Schell asked about a reconciliation discrepancy. Secretary Heinle explained that when he switched from desktop to online QuickBooks, old data entries had to be cleared, resulting in the discrepancies. President Quamme called for a motion to approve the Treasurer's Report. Scott Schneider so moved, Lance Meyer seconded, and the motion carried.

Next, President Quamme called for any old business. Jake Schafer discussed the purchase of a new laptop and camera for the "Official Bulletin". The spending amounts had been previously approved, Jake indicated the purchased equipment was under the spending amount. Lance Meyer asked if the Conference should have an annual equipment line item. President Quamme added by saying perhaps there should be a spreadsheet created on yearly purchase needs. Jake Schafer said he will create the spreadsheet to be presented at the January board meeting.

President Quamme called for new business. First, Mr. Quamme asked for volunteers to serve on the nominating committee. Scott Schneider, Lance Meyer, and Jeannie Schultz volunteered. Also, the auditing committee needed three volunteers. Gabe Schell, Scott Schneider, and Michael Quamme volunteered. President Quamme then asked for nominations of Life Membership, Wei Lin was nominated. Scott Schneider made a proposal to waive the requirements for nomination, Lance Meyer seconded, motion passed. Charles Vein was also nominated. Scott Schneider made a proposal to waive the requirements for nomination, Seth Lynn seconded, motion passed. Mr. Heinle also asked for presenters at the Spring trainings. There will be the online version available, as well as in person training. The dates will be as follows:

March 15-17
March 22-24
April 5-7
April 12-14

There was a discussion about whether the Conference should have a legal consultant to advise on items such as a waiver for the registration. Also, a discussion clarifying how DEQ personnel are involved with the Conference. President Quamme made a motion to have Jake Schafer investigate a legal consultant and fee to be presented to the Joint Board in January. Lance Meyer seconded; motion passed.

Next, Secretary Heinle proposed a September 30th end date for Eventbrite registrations. This will allow registration staff time to prepare badges and other registration materials. Also, it was suggested that walk-in registration after the cut-off date pay an additional late fee. President Quamme made the motion for the end date and late fee, Jake Schafer seconded; motion passed.

President Quamme then called for a motion to adjourn. Motion made by Scott Schneider, seconded by Don Wald. Meeting adjourned.

The meeting adjourned at 10:15 a.m.

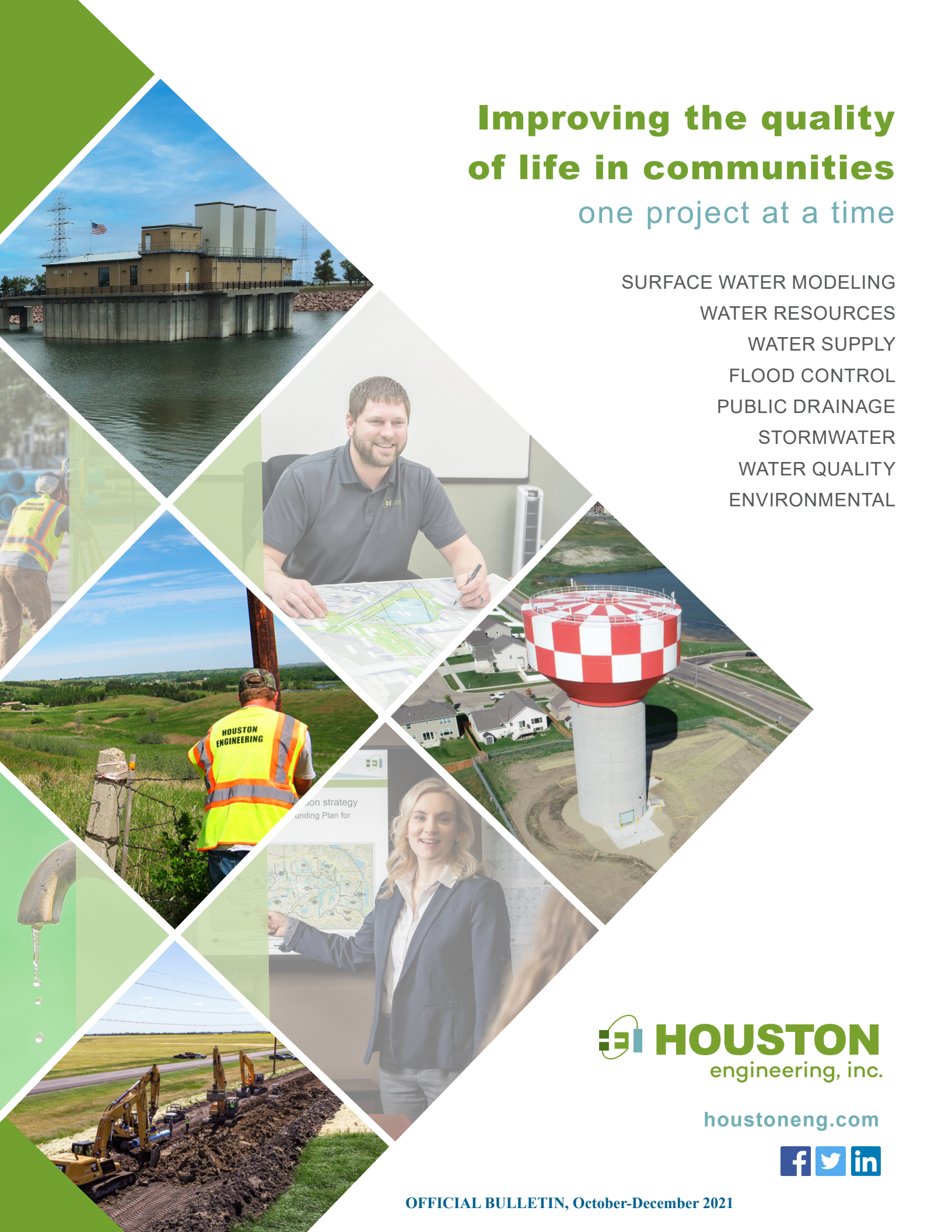
Respectfully submitted,


Shawn Heinle
Secretary/Treasurer

SH:ll

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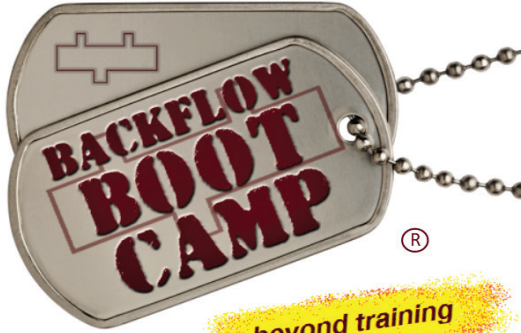


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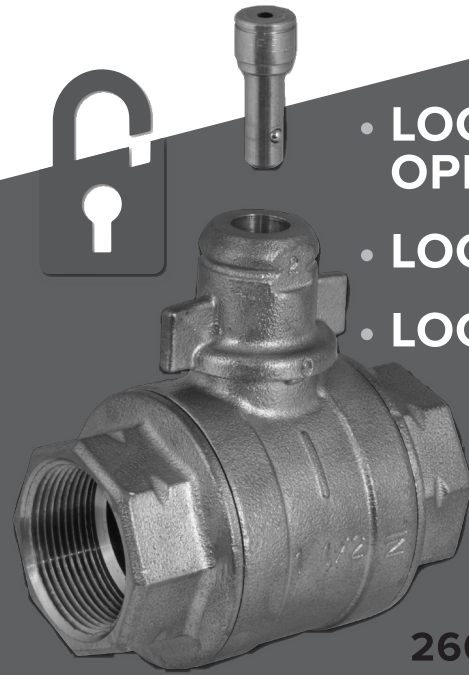


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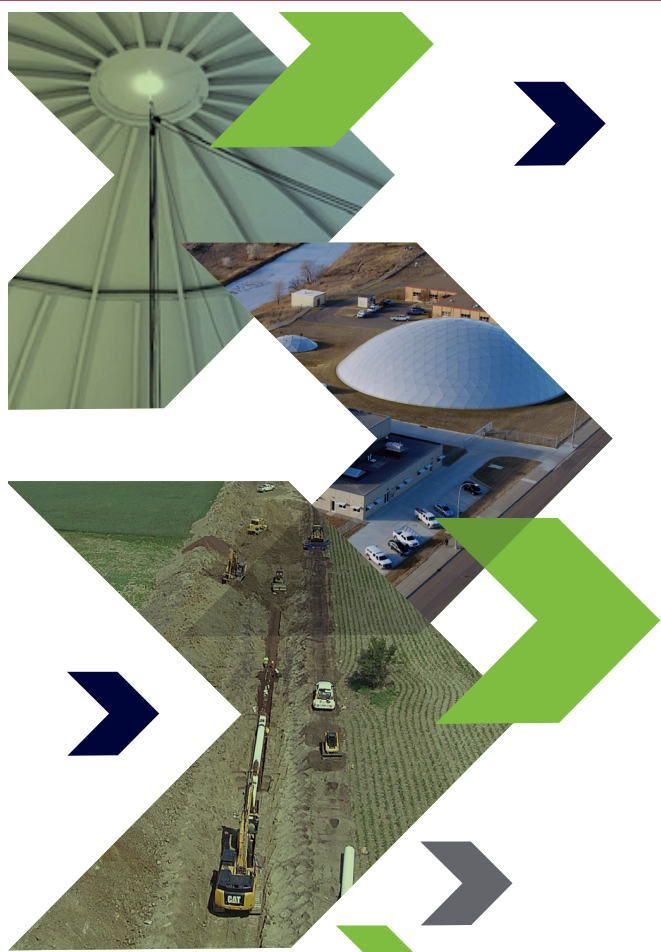
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CERTIFICATION SUMMARY

Operators Who Took Exams 191
Between 1/1/2021 - 12/14/2021

Exams Taken 284
Exams Passed 179 (63.03%)

Exams Per Grade

Drinking Water

DWT 1A	19	DWD 1A	27
DWT 1	34	DWD 1	46
DWT 2	23	DWD 2	36
DWT 3	7	DWD 3	1
DWT 4	4	DWD 4	2

Wastewater

WWC 1A	6	WWT 1A	5
WWC 1	21	WWT 1	13
WWC 2	18	WWT 2	10
WWC 3	3	WWT 3	0
WWC 4	1	WWT 4	3

Passed Exams Per Grade

Drinking Water

DWT 1A	13	DWD 1A	25
DWT 1	20	DWD 1	27
DWT 2	9	DWD 2	9
DWT 3	4	DWD 3	2
DWT 4	1	DWD 4	2

Wastewater

WWC 1A	6	WWT 1A	5
WWC 1	19	WWT 1	10
WWC 2	17	WWT 2	4
WWC 3	2	WWT 3	0
WWC 4	3	WWT 4	1

Passed Exam Percentage Per Grade

Drinking Water

DWT 1A	68.4%	DWD 1A	92.6%
DWT 1	58.8%	DWD 1	58.7%
DWT 2	39.1%	DWD 2	25.0%
DWT 3	57.1%	DWD 3	200.0%
DWT 4	25.0%	DWD 4	100.0%

Wastewater

WWC 1A	100.0%	WWT 1A	100.0%
WWC 1	90.5%	WWT 1	76.9%
WWC 2	94.4%	WWT 2	40.0%
WWC 3	66.7%	WWT 3	#Num!
WWC 4	300.0%	WWT 4	33.3%

Operator of the Year Awards

Thank you for your hard work!

The North Dakota Department of Environmental Quality, in an effort to encourage proper operation and maintenance of water and wastewater systems, instituted an annual operator awards program in 1981 at the Annual North Dakota Water and Pollution Control Conference in Jamestown. This year marks the 41st anniversary of the awards program which has honored 207 plus operators and three military units (the U.S. Army Reserve, the ND Army National Guard, and the ND Air National Guard) for outstanding service.

The awards are based on:


Recipients of the 2021 Operator of the Year Awards are:

Johnathon Guss – City of Drayton

Johnathon Guss started as a Wastewater Operator at Oak Valley Farms in Watertown, SD. He worked there until March 20, 2000, when he was hired by the City of Drayton. Jonathon has been operating a Surface Water Grade 2 Lime Softening Plant for over 20 years at Drayton. Johnathon is a Grade 2 Water Treatment Operator, Grade 1 Water Distribution System Operator, Grade 1 Wastewater Treatment Operator and Grade 1 Wastewater Collection Operator.

Steve Hans – City of Davenport

Steve Hans, age 64, has literally spent a lifetime in Davenport. He was raised in the town, going to school in Davenport and Kindred. In 1978, Steve married the love of his life, Darlene (Stemberg) and moved back to Davenport from Fargo in 1980, where together, they raised 2 boys, Kyle, and Carter. Steve started working maintenance part time for the city of Davenport in the late 1980's and continued to do so through the late 1990's, at which time he left to pursue other opportunities. He returned to take the job as City Maintenance in 2010 and currently still holds this position. The duties he carries out are maintenance of the city lagoon, testing, and discharge, maintenance of water samples, for the county and state, maintenance of the city pumphouse and fire hydrants, collecting monthly residential water usage data. Steve is also closely working with Interstate Engineering in connection with the current City Water Improvement Project. Along with the previously mentioned duties, Steve also maintains city building, streets, lawns, and anything asked of him. Plus, he is currently serving on the City Park Board, which he has done continuously for the past 23 years. His hobbies include rebuilding small engines, making model cars and in his words, "just fixing things". Steve is also currently serving on the city park board which he has continue to do so for the past 23 years. Steve is very much appreciated for all he does for the City of Davenport, with his "jack of all trades" experiences and from a city standpoint, we are very much appreciative of the honor you are bestowing upon this fine man.



Randy Belanger
Sales Manager

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Marc Troska – All Seasons Water District

Marc Troska has been involved in the water quality field in North Dakota for the past 26 years. Marc is a Class III water plant operator and a Class II water distribution operator. Marc received an Associate Degree in Water Quality Technologies from NDSU-Bottineau in 1996. Marc worked for Ramsey County Rural Utilities and later with Grand Forks Traill Rural Water in Thompson, ND. In October of 1996, Marc began his career with All Season's Rural Water. Marc has spent the last 24 years with All Season's Rural Water. He lives in Bottineau with his wife and two daughters. Marc says "I have enjoyed being a part of this community and a part of All Season's Rural Water System. Many of the users have become friends over the years. I hope to be here for many more years."

Lloyd Veil – Cit of Streeter

Lloyd Veil is a native of Streeter. Him and his late wife Arlene, raised three children in the community. Two of his children, Brent and Kip, are here to celebrate with him tonight. Lloyd has been an active part of the community his whole life. He has served on the city council since 1974 (47 years). In 2000 the city was unable to find a reliable and dependable water commissioner, so Lloyd took on the job. He continued to run his full-time business, Streeter Paint & Carpet while he took classes and learned everything there is to know for the water commissioner job. Lloyd has been a source of knowledge for both the community and the city council members. He has done an amazing job for the City of Streeter. Lloyd has been the water commissioner for the Streeter now for 21 years! Always dedicated to the community, whenever there is a problem, you can count on Lloyd to be there to fix it. The City of Streeter is proud that Lloyd is being honored with this award tonight. Congratulations Lloyd, your dedication and commitment to your community is greatly appreciated.

Past Recipients: Operator of the Year Awards

2021	Jonathon Guss, Drayton Steve Hans, Davenport Marc Troska, All Seasons Lloyd Veil, Streeter	2015	Kelly Jemtrud, Velva Barry Schulz, Missouri West Water System John Silvenail, Lisbon Dell Widmer, Kulm	2009	Dennis Larson, Park River Ken Miskavige, Grafton Gary Neuberger, Beulah Jason Sorenson, Minot
2020	No selection, Conference cancelled due to Covid-19	2014	Clay Kruger, Riverdale Wayne Offerdahl, Fargo Lyle Quenzer, South Central Water District Adam Thomas, Washburn	2008	Bill Gefroh, Bismarck Steve Himmelspach, Mandan Richard Jacobson, Hazen Roy Hayes, Hazen
2019	James Kershaw, Bismarck Ronald Narum, Rutland Matt Routledge, Bismarck	2013	Darrell Haman, Towner Don Hartman, Wildrose Bradley Moser, Medina Dale Neubauer, Fargo	2007	Duane Golliet, Fargo Raymond Peterson, Fargo Terry Rust, West Fargo Jerome Olson, Traill Rural Water District
2018	Roger Kristiansen, Napoleon Dan Schaefer, All Seasons WD Donald Vetter, South Central RWD Allan Weiland, Wahpeton	2012	Alan Beyries, Garrison Frank Mosser, Maddock Sam Shutt, Minto Michael Tank, Medora	2006	Kelly Berentson, Westhope Jerry Imhoff, Elgin Jay Haugen, Michigan
2017	Kenny Bergstrom, Williston Mike Hall, Lake Metigoshe Recreation Service District Alice Pekarski, Montpelier Stephen Weiser, Richardton	2011	Kent Bickler, R&T Water Supply Mike Houska, Grafton Rick Larson, Rugby William "Bill" McQuiston, Williston	2005	Keith Olson, Harvey Bob Weninger, Harvey Ken Blilie, Kindred Del Kindelspire, LaMoure
2016	Dane Fuchs, New Salem Brian Harrington, Carrington Grace Rixen-Handford, Southwest Water Authority Jerry Tufte, Glenfield	2010	Wade Hesch, Valley City Mark Peterson, Fargo Donald Wald, Wahpeton Keith Winson, Maddock	2004	Ron Hendrickson, Fargo Pete Bilstad, Fargo Delvin Stemen, Burlington Mark Paddock, Burlington

2003	Rick Anderson, Central Plains Water District Keith Fulsebakke, Bottineau Don Horning, Zap	Operators of Agassiz Water Users Gus Cronquist Clark Cronquist	1996	Randy Seelig, Lisbon Skip Rapp, Dickinson Larry Thomas, Washburn Gary Hager, Upper Souris Water Users
2002	Arlis Bischoff, Grafton Allan Kraft, Cavalier Doug Neibauer, South Central Regional Water District Gary Zander, Mandan	City of Grand Forks Water Treatment Plant Operators and Employees Brian Borden Andy Job Steven Bolton James Evenson Larry Hadland Richard Jurgens Ken Mather Wayne Tunseth Craig Lacher Linda Schumacher Sletten	1995	Brad Moser, Medina Les Sigette, McVille Don Olafson, Valley City Charles Jazzkowiak, Bismarck
2001	Verdeen Backstrom, Minnewaukan Jerome Broz, Fairmount Jack Knudson, Jamestown Paul Lacina, Barnes Rural Water	Erik Johnson, Jr. Rodney Kalis Robert Peterson Dan Tupa Steve Kolar Hazel	1994	Gregg Christensen, Cass Rural Water Users Gordon Johnson, North Valley Water Assoc. Kerry Miller, Stanton Virgil Sund, Oakes
2000	Tim Gjovig, Crosby Jim Fixen, Alexander Ed Rekkedal, Arvilla Reuben Grosz, Bismarck	City of Grand Forks Water Distribution Operators Ron Borden Danielson Robert Deitz Jackie Heidrich David Kratochvil Kulas	1993	JefSf Huwe, Columbus Clay Pettys, Lake Metigoshe Recreation Service Dept. Richard Resell, Williston
1999	Richard Wanner, Bismarck Tom Sieg, Anamoose Ron Kleven, Grafton Bill Emerson, Minot	Perry Hart Michael Dennis	1992	Dave Auch, Mandan Joel Heitkamp, Southeast Water Users Michael Schneider, Jr., Strasburg Joseph Leo Tupa, Grand Forks
1998	Bill Link, Walsh Water Users Ross Carter, Sherwood Bob French, Bismarck Terry Leingang, Riverdale	John Scheffer Peter Stoute Dwight Wurzbacher Donald Zhorela	1991	Jim Moe, Devils Lake Lyle Mitzel, Wahpeton Joe Manning, Fargo Howard Plum, Maddock
1997	Staff Members of the 348th Quartermaster Detachment (Water Purification) United States Army Reserve Staff Members of the 136th Quartermaster Battalion North Dakota Army National Guard Staff Members of the 119th Civil Engineering Squadron North Dakota Air National Guard	City of Grand Forks Wastewater Operators (Storm and Wastewater Departments) Thomas Helle Stevenson Peter Aamold Robert Fetsch Gary Goetz Gunderson Edward Haskell Thomas Mikelson Lawrence Morrison	1990	Keith Demke, Bismarck Rick Gillund, Enderlin Greg Nordsven, Killdeer Byron Thronson, Minot
	Operators of Grand Forks-Traill Water Users Randy Loeslie Mike Thompson Neil Breidenbach Ray Rakoczy	Richard Winkels	1988	Ed Braunagel, Harvey Greg Larson, R&T Water Supply Ingram Opp, New Salem Dale Townsend, Carrington David Burckhard, Minot Ray Feltman, Minto Dale Hanson, Valley City Robert Job, Linton

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

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

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

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

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

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

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



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Operator of the Year Awards

Thank you for your hard work!



**Johnathon Guss - City of Drayton
Gregg Stewart - NDDEQ**



Steve Hans - City of Davenport

Operator of the Year Awards

Thank you for your hard work!



**Marc Troska - All Seasons Water District
Gregg Stewart - NDDEQ**



**Lloyd Veil - City of Streeter
Jake Schafer - NDDEQ**

MINUTES
93rd Annual MEETING OF THE
NORTH DAKOTA WATER AND POLLUTION CONTROL CONFERENCE

The 93rd Annual Meeting of the North Dakota Water and Pollution Control Conference (NDWPCC) was held October 12, 13, and 14, 2021, at the Holiday Inn, Fargo, North Dakota. The annual meeting/convention was held jointly with the North Dakota Chapter of the American Public Works Association (NDCAPWA), the North Dakota Water Environment Association (NDWEA), the North Dakota Section of the American Water Works Association (NDAWWA), and the North Dakota Chapter of the North American Stormwater and Erosion Control Association (NASECA-ND).

There was a pre-conference Workshop, Updated Requirements for Backflow Regulations, Monday, October 11, 2021, from 1:00 p.m. to 5:00 p.m. in the Frontier Room of the Holiday Inn, 3803 13th Ave S, Fargo, ND.

Board meetings were held Tuesday, October 12, 2021, by NDAWWA at 7:30 a.m. in the Prairie Room, NDCAPWA at 8:00 a.m. in the Frontier Room, NDWEA at 8:00 a.m. in Board Room, and Wednesday, October 13, 2021, by NASECA-ND at 9:00 a.m. in Mezzanine Suite I Room. The associations planned their business meetings, gave committee reports, and accepted volunteers for committees. Association business meetings were held Tuesday, October 12 (NDWEA); Wednesday, October 13 (NDCAPWA); and Thursday, October 14 (NDAWWA and NDWPCC).

Wastewater Operator pH Certification training was held 9:00 to 11:00 a.m. in the Mezzanine Suites III Room. Registration opened at 8:00 a.m., Tuesday, October 12, 2021, with Patty Carman, Laura Lee, Stacey Herreid, Maggie Siebel, Jacob Stokes, Jake Schafer, Mike Trythall and Shawn Heinle welcoming all attendees. A total of 275 preregistered with final attendance being 300.

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 October 12th, 2021, in the Executive Room of the Holiday Inn, Fargo, ND. The following board members and guests were present: Chloe Anderson, Shawn Heinle, Jeff Hruby, Jasper Klein, Jesse Kist, Eric Lothspeich, Seth Lynne, Lance Meyer, Dennis Miranowski, Matt Moltzan, Tim Paustian, Michael Quamme, Karl Rockeman, Jake Schafer, Gabe Schell, Scott Schneider, Luci Snowden, Matt Sperry, Don Wald, Greg Wavra, and Gary Zuroff.

The meeting was called to order at 9:36 a.m. by NDWPCC President Michael Quamme. Copies of the meeting agenda and January 1 through October 7, 2021, financial report was provided to those in attendance.

For the first order of business President Quamme called for a motion to dispense with the reading of the minutes from the May 20, 2021, minutes and approve the copy mailed to all board members. Jake Schaefer so moved, Greg Wavra seconded, and the motion carried.

Next, President Quamme called for the Treasurer's Report. Shawn Heinle read the 2021 NDWPCC financial report, which showed a net gain of \$53,533.93 and total assets of \$198,800.75. President Quamme asked for any discussion. Gabe Schell asked about a reconciliation discrepancy. Secretary Heinle explained that when he switched from desktop to online QuickBooks, old data entries had to be cleared, resulting in the discrepancies. President Quamme called for a motion to approve the Treasurer's Report. Scott Schneider so moved, Lance Meyer seconded, and the motion carried.

Next, President Quamme called for any old business. Jake Schafer discussed the purchase of a new laptop and camera for the "Official Bulletin". The spending amounts had been previously approved, Jake indicated the purchased equipment was under the spending amount. Lance Meyer asked if the Conference should have an annual equipment line item. President Quamme added by saying perhaps there should be a spreadsheet created on yearly purchase needs. Jake Schafer said he will create the spreadsheet to be presented at the January board meeting.

President Quamme called for new business. First, Mr. Quamme asked for volunteers to serve on the nominating committee. Scott Schneider, Lance Meyer, and Jeannie Schultz volunteered. Also, the auditing committee needed three volunteers. Gabe Schell, Scott Schneider, and Michael Quamme volunteered. President Quamme then asked for nominations of Life Membership, Wei Lin was nominated. Scott Schneider made a proposal to waive the requirements for nomination, Lance Meyer seconded, motion passed. Charles Vein was also nominated. Scott Schneider made a proposal to waive the requirements for nomination, Seth Lynn seconded, motion passed. Mr. Heinle also asked for presenters at the Spring trainings. There will be the online version available, as well as in person training. The dates will be as follows:

March 15-17
March 22-24
April 5-7
April 12-14

There was a discussion about whether the Conference should have a legal consultant to advise on items such as a waiver for the registration. Also, a discussion clarifying how DEQ personnel are involved with the Conference. President Quamme made a motion to have Jake Schafer investigate a legal consultant and fee to be presented to the Joint Board in January. Lance Meyer seconded; motion passed.

Next, Secretary Heinle proposed a September 30th end date for Eventbrite registrations. This will allow registration staff time to prepare badges and other registration materials. Also, it was suggested that walk-in registration after the cut-off date pay an additional late fee. President Quamme made the motion for the end date and late fee, Jake Schafer seconded; motion passed.

President Quamme then called for a motion to adjourn. Motion made by Scott Schneider, seconded by Don Wald. Meeting adjourned.

The meeting adjourned at 10:15 a.m.

Water samples for the 30th Annual Water Taste Test, sponsored by NDAWWA were accepted throughout the day Tuesday with eight public water systems competing. The Tuesday luncheon and NDWEA business meeting were held in the Sterling and Crowne rooms with NDWEA Chair, Don Wald, presiding. Bismarck Mayor, Tim Mahoney, welcomed all attendees on behalf of Fargo.

The annual golf tournament was held at Village Green Golf Course on Tuesday, October 12, 2021, with Marisha Lunde and Marisa Solberg from the local arrangement committee in charge.

Tuesday sessions started at 1:30 pm and were held in the Dakota Hall, the Executive and Board Rooms and the Directors and Conference Rooms. Tuesday's sessions were moderated Greg Wavra, NDDEQ, Sarah Waldron Feld, NDDEQ, and Luci Snowden, Knife River.

Tuesday topics included:

- "Distribution Survey Results" – NDDEQ Staff
- "PFAS in North Dakota" – Stacey Herreid, NDDEQ
- "Backflow Guidance" – Mitch LeBas, Backflow Prevention Services
- "Revised Lead/Copper Rule" – Sandi Washek, NDDEQ
- "Emerging Regulatory Issues" – NDDEQ Staff
- "Wastewater COVID Testing Results" – James Uhlman, NDDEQ
- "Industrial Pretreatment: Dental Amalgams" – Marty Haroldson, NDDEQ and Karla Olson, Apex Engineering
- "Staffing Lessons during COVID" – ND Cities
- "Bismarck Street Utility-Process to Vote" – Gabe Schell, City of Bismarck and Brent Bogar, AE2S engineering
- "Moorhead WWTF Improvements" – Seth Lynee, Apex Engineering
- "Fargo MWTF: Restarting a GAC Contactor" – Kristofer Knuston, Apex Engineering
- "Membrane Application in Red River Valley: Fargo WTP" – Qigang Change, AE2S Engineering and Troy Hall, City of Fargo

The 3:00 p.m. break was held at the Atrium Area with all breaks sponsored by the business firms, vendors, and commercial suppliers listed in the program.

Early set up for the 33rd Annual Exhibitor Program was from 7:00 to 9:00 p.m. on Tuesday in the Great Hall. Late set up was from 6:30 to 7:30 a.m. on Wednesday, October 13, 2021. Display hours were from 7:30 to 11:30 a.m. with 45 firms/suppliers reserving 50 booths. A breakfast buffet sponsored by the exhibitors was held from 8:00 to 10:00 a.m. along with a breakfast buffet poker game. Poker hands were turned in at the registration desk and the registration table, with winners announced at the Wednesday Luncheon. Poker dealers included AE₂S; Apex Engineering Group; Backflow Prevention Services; Bartlett & West; Bolton & Menk; Interstate Engineering; KLJ; and Moore Engineering. The following business firms, suppliers and associations participated in the exhibitor program: NDAWWA; NDWEA; NDCAPWA; AE2S; American Cast Iron Pipe; Apex Engineering Group; Bartlett & West; Backflow Prevention Services; Bolton & Menk; Core & Main; Dakota Pump & Controls; Dakota Supply Group; DN Tanks; Ductile Iron Pipe Research Association; ESS brothers/Public Works; Ferguson Waterworks; Flow Control; Granse/Trio Sales; General Repair Services; Great Northern Environmental; Hawkins; HDR; Houston Engineering; Interstate Engineering; KLJ; KLM Engineering; Larson Data Communications; Leonard Rice; Moore Engineering; MNX Inc/Triplepoint; NDRWSA; ND Public Finance Authority; Normont Equipment; Power Process Equipment; SEH; Sherwin Williams; Tech Sales; Team Lab; Tnemec Coating; Ulteig; Vessco; Widseth Smith Nolting; and William E Young.

The Annual Public Works Directors' and City Engineers' meeting was held Wednesday, October 13, 2021, at 9:00 a.m. in the Mezzanine III Room.

The NDCAPWA luncheon and business meeting was held at 12:00 p.m. at the Pool Patio with NDCAPWA President, Jasper Klein, presiding. Also, Guest Speaker, Dan Hartman, President-Elect, APWA, updated the members on APWA activities.

The Wednesday concurrent sessions started at 1:30 p.m. with Michael Quamme, Apex, Karla Olson, Apex, and Gary Zuroff, City of Dickinson moderating.

Wednesday's topics included:

- "Phosphates for Corrosion Control" – Dean Sletten, Apex
- "Bismarck Lead Service Line Replacement" – Michelle Klose and Matt Routledge, City of Bismarck
- "Assessing and Maintaining the Health of your WTP Central Unit Process" – Steve Nelson, AE2S
- "Sludge Reduction in Wastewater Stabilization Ponds" – Terry Maier, Team Lab
- "Speed Dating for Small Wastewater Systems" – Marty Haroldson, NDDEQ, Karla Olson, Apex

- “Speed Dating for Large Wastewater Systems” – Marty Haroldson, NDDEQ, Karla Olson, Apex
- “Beautification and Safety improvements to University Ave Grand Forks” – Jarda Solc, AE2S
- “Cradle to the Grave Infrastructure Planning” – Jacob Strombeck, AE2s
- “Snow and Ice Strategies – City of Dickinson” – Dave Clem and Darryl Wehner. City of Dickinson

Attendees met at 3:00 p.m. in the Atrium Area for an afternoon break.

A social hour was held from 5:30 to 6:30 p.m. in the Great Hall prior to the awards banquet with the Sheyenne High School Orchestra providing music. The following companies graciously sponsored the social hour, door prizes, coffee breaks, and golf tournament:

Platinum Level: Backflow Prevention Services, Bartlett & West, Bolton & Menk, Houston Engineering, and Interstate Engineering.

Gold Level: Apex Engineering, Great Northern Environmental

Silver Level: William E. Young.

The annual banquet and awards ceremony were held in the Great Hall with 250 members and guests in attendance. Patrick Kirby served as master of ceremonies introducing the officers and dignitaries at the head table and delivering the invocation.

After dinner, Mr. Kirby called on NDWEA dignitary, Tom Kunetz, to give an update on WEF. Then Mr. Kirby called for the presentation the 2021 awards. Adam Zach, NDAWWA Chair, presented the Operator Meritorious Award.

Then Marisha Lunde, NDAWWA Education and Research Committee Chair announced the Young Professional Poster winner, named the eight public water systems participated in the 30th Annual Water Taste Test with the City of McVillage being the 2021 winner.

Next, Michael Quamme, President NDWPCC, presented Dr. Wei Lin with his 2020 NDWPCC President Service plaque and announced his lifetime nomination for the Conference. Dr. Lin has retired from teaching at NDSU after many years of service guiding young minds in the field of engineering.

Jasper Klein, President, NDCAPWA, presented the 2020 Project of the Year Award, the 2021 Project of the Year Award, and Outstanding Individual in Public Works Award.

Last, Shawn Heinle, NDDEQ, presented Operator of the Year Awards to Jonathan Guss, City of Drayton; Steve Hans, City of Davenport; Marc Troska, All Seasons Water District, and Lloyd Veil, City of Streeter.

All award winners and their photos can be found in the winter edition of the Official Bulletin.

The three Thursday morning concurrent sessions started at 8:00 a.m. with Gabe Schell, City of Bismarck, Seth Lynne, Apex, and Josh Kadrmaz, Braun Intertec.

Thursday's topics included:

- "Practical Lessons from AWIA: how to use the Data for Capital" – Kristofer Knutson, Apex
- "More than Just a Tower – A Dive into Design Considerations and Options for Elevated Tanks" – Michael Quamme, Apex
- "On-site Sodium hypochlorite Generation" – Joseph Honner, HDR
- "The What, Where, and Why's of PFAS and Regional Project Showcase" – Jacob Strombeck and Scott Schaefer, AE2S
- "Community Water Fluoridation: Oral Health" – Jim Kershaw, City of Bismarck
- "Funding Infrastructure Improvements in Small Municipalities – Larimore, ND" – Jarda Solc, AE2S
- "Fargo Downtown Flood Protection WP42E" – Randy Engelstad, Houston Engineering
- "Marketing Your Wastewater Utility" – Karla Olson, Apex
- "Balancing the Administrative, Financial and Technical Aspects of an Industrial Pretreatment Program" – Shawn Gaddie, AE2S and Lisa Botnen, City of Grand Forks
- "Using 2D Modeling to Develop Flood Risk" – Amber Lefers, AE2S
- "Using Digital Tools and Crowdsourcing for Public Input on Drainage and Stormwater Issues" – Amber Lefers and Andrea Boe, AE2S
- "FEMA Grant Funding to Pay for Hazard Risk Reduction Projects" – Amber Lefers and Abby Ritz, AE2S

A break was held at the Atrium Area at 10:00 a.m.

The joint business meetings and luncheon of the NDAWWA and NDWPCC were held at 12:00 noon Thursday, October 14, 2021, with the NDAWWA Chair Adam Zach and NDWPCC President Michael Quamme presiding. Chair Zach opened the NDAWWA meeting at 12:30 p.m. with the NDAWWA financial report and announcement the slate of officers.

President Quamme called the NDWPCC meeting to order at 1:05 p.m. As the first order of business President Berg called for a motion to dispense with the reading of the minutes from the 2019 annual meeting in Bismarck and approve the minutes as published in the *Official Bulletin*, October-December 2019, Volume 107, Numbers 10-12. Sarah Waldron Feld so moved. Jim Lennington seconded, and the motion carried.

Next, Mr. Heinle presented the 2018 NDWPCC financial report, showing a net income of \$53,533.93 and total assets of \$198,800.75. President Quamme, called for a motion

to approve the financial report. Jim Lennington so moved. Luci Snowden seconded, and the motion carried.

Next, President Quamme ask for nominations for life membership. Dr. Wei Lin and Charles Vein were nominated, both were accepted in the Tuesday Joint Board Meeting. No other nominations were presented. President Quamme called for a motion to close nominations. Karl Rockeman so moved. Jim Lennington seconded, and the motion carried.

Next, the Nominating Committee read the slate of officers for the 2021-2022 Conference Board:

Jim Lennington, President
Lance Meyer, President Elect
Scott Schneider, Vice President
Shawn Heinle, Secretary-Treasurer
Jake Schafer, Assistant Secretary/Treasurer
Gabe Schell, Director
Luci Snowden, Director
Jeannie Schultz, Director
Lisa Botnen, Director
Joe Reiter, Associate Director
Michael Quamme, Past President

President Quamme called for other nominations from the floor. Hearing none, President Quamme called for a motion to close nominations and the secretary to cast a unanimous ballot. Jake Schafer so moved. Sarah Waldron-Feld seconded, and the motion carried.

Next, President Lennington presented outgoing President Quamme the NDWPCC President's Service Award and thanked him for his dedicated service.

President Lennington called for a motion to close the meeting. Seth Lynne so moved. Matt Sperry seconded, and the 93rd Annual Meeting of the NDWPCC adjourned at 1:30 p.m., Thursday, October 14, 2021.

Respectfully submitted,

Shawn Heinle
Secretary-Treasurer

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2021 Conference Attendance List

Andrew Aakre Moore Engineering Inc	Alan Beyreis City of Garrison	Brad Brouillet Grand Forks City	Brian Day MAP
Diane Affeldt Garrison, City of	Mike Bibow AE2S	David Bruschwein NDDEQ	Tyson Decker Bartlett & West
DeAnn Ament ND Public Finance Authority	Kevin Bittner Bolton & Menk	David Buchholz City Of Fargo	Jesse DeGroot Tech Sales Company
Chloe Anderson Apex Engineering Group	Kevin Bittner Bolton & Menk	Bobbie Butler City of Center	Jeremy Deitz City of Grand Forks
Barry Arntz City of Grand Forks	Josee Bitzen City of Fargo	Patricia Carman NDDEQ	Zach Denning City of Bismarck
Alex Bacon City of Jamestown	Gabe Bladow Houston Engineering, Inc.	Qigang Chang AE2S	Brenda Derrig City of Fargo
Craig Bartholomay NDDEQ	Mark Blonigen City of Fargo	Tyrel Clark Moore Engineering Inc	Sam DeVries NDDEQ
Marlon Bell NDDEQ	Jordan Blotske City of Bismarck	Dave Clem City of Dickinson	Ben Dow City of Fargo
Jerry Bents Houston Engineering, Inc.	Josh Blount Ductile Iron Pipe Research Association	Ben Cofell City of Minot	Josh Duchsherer City of Minot
Jesse Berg City of Minot	Andrea Boe AE2S	Clint Cogdill North Dakota Department of Water Resources	Megan Dunbar City of Bismarck
Mike Berg Apex Engineering Group	Brent Bogar AE2S	Nic Cullen Houston Engineering, Inc.	Lorne Duppong Ferguson Waterworks
Brian Bergantine AE2S	Vanessa Bopp NDDOH	James Dahlman Interstate Engineering	Laura Eilek Hawkins
Kenny Bergstrom City of Williston	Dean Boreen City of Fargo	Erin Dammann City of Fargo	Bailey Elkins ND Rural Water Systems Assoc.
Jody Bertrand City of Fargo	Lisa Botnen City of Grand Forks	Charles David City of Grand Forks	Randy Engelstad Houston Engineering, Inc.
Josh Beste City of Fargo	Kelly Brandt City of Minot	Ryan David Houston Engineering, Inc.	Mark Enochs MNX inc
Jordan Beutler Power Process Equipment Inc.	Clarence Brendel City of Bismarck	Scott Davis USDA Rural Development	Kenny Erickson City of Harvey

Tracy Eslinger Moore Engineering Inc	Barry Glienke Apex Engineering Group	Bob Hanson City of Williston	Wade Hesch Valley City Public Works
Dustin Fanfulik Widseth	Nick Gludt Moore Engineering Inc	Dan Hanson City of Grand Forks	Steven Himmelspach City of Mandan
Mike Ferrie Houston Engineering, Inc.	John Goetz City of Grand Forks	Stacey Hanson NDDOT	Laith Hintz AE2S
Chad Finken City of Minot	Christine Goldader City of Fargo Engineering	Kelly Hanson Power Process Equipment Inc.	Allen Holtberg City of New York Mills
Shannon Fisher NDDEQ	Perry Grammond City of Bismarck	Marty Haroldson NDDEQ	Joe Honner HDR
Lonni Fleck Interstate Engineering, Inc.	Allen Grasser City of Grand Forks	Dan Hartman APWA	Jeff Hruby AE2S
Dillon Flemmer City of Carrington	Stephanie Gray AE2S	Rob Hasey City of Fargo	Emily Huettl City of Minot
Tim Folden City of Sawyer	Michael Greer City of Bismarck	James Hausauer City of Fargo	Tom Huncovsky NDDOT
Bruce Ford City of Cando	Cody Gronvold Apex Engineering Group	Keith Hegeny NDRWSA	Wiley Irvine City of Mandan
Tim Freije North Dakota Department of Water Resources	Ryan Grubb AE2S	Ward Heidbreder ND Rural Water Systems Association	Chris Iwen City Of Enderlin
Duane Friesz City of Mandan	Kellen Grubb Burian & Associates	Julie Hein ND Rural Water Systems Association	Carl Jackson KLJ
Matt Fritze Great Northern Environmental	Jason Grzadzieleski City of Mandan	Cody Heinert City of Bismarck	Eric Jaramo City of McVile
Jeron Fueller City of Bismarck	Jim Guler Moore Engineering, Inc.	Shawn Heinle NDDEQ	Barry Johnson Interstate Engineering
Shawn Gaddie AE2S	Steve Gylten City of Hatton	Derrek Heins City of New Salem	Allen Johnson City of Minot
Christian Gage City of Mayville	Troy Hall City of Fargo	Dan Heitzman Houston Engineering, Inc.	Corey Johnson Apex Engineering Group
Tom Gange City of Fargo	Terry Halstengard City of Bismarck	Gary Helland City of Pembina	Clark Johnson North Dakota National Guard
Brad Glass City of Mandan	Daniel Haman City of Fargo	Stacey Herreid NDDEQ	Dan Jonasson City of Minot
	Roger Hammond City of Devil's Lake		

Gene Jordan Core & Main	Clint Klemisch City of Valley City	Mike Larson Larson Data Communications, Inc	Kristin Maher VIR Proteus
David Juma City of Williston	Miranda Kleven AE2S	Mitchell LeBas Backflow Prevention Services, LLC	Daren Malard City of Bismarck
Bob Jundt General Repair Service	Michelle Klose City of Bismarck	Laura Lee NDDEQ	Joe Malaterre International Peace Garden
Josh Kadrmas Braun Intertec	Roger Kluck City of Fargo	Amber Lefers AE2S	Jennifer Malloy Apex Engineering Group
Dan Karr City of Dickinson	Teaguean Knudsen Interstate Engineering	Jim Lennington Bartlett & West	Colin Marcusen SEH, Inc.
Kevin Kelly City of Minot	Andy Knudson Grand Forks City	Justin Liebig City of Jamestown	Shannon Marmon City of Minot
Alan Kemmet Houston Engineering, Inc.	Kris Knutson Apex Engineering Group	Rick Lipetzky City of Jamestown	Shawn Martin NDDEQ
James Kershaw City of Bismarck	Scott Kolbinger KLJ	John Lippert Dakota Supply Group	Todd Martinson City of Riverdale
Bridget Kessler Houston Engineering, Inc.	Timothy Kopp City of Minot	Rob Logue City of Tioga	Kevin Mayer City of Casselton
Cheri Kiefer NDDOH	Broc Krekelberg US Pipe	Eric Lothspeich AE2S	Stu Merry Garrison, City of
Greg Kilgore Ess Brothers & Sons	Brad Krogstad KLJ	Mike Love Houston Engineering, Inc.	Kyle Meyer Moore Engineering Inc
Paul King American Crystal Sugar Company	Zach Kubas Apex Engineering Group	Brad Lovgren City of Wahpeton	Lance Meyer City of Minot
Brian King HDR	Tom Kunetz WEF	Terry Ludlum City of Fargo	Stan Meyer General Repair Service
Jesse Kist AE2S	Grant Kuper Bolton & Menk	David Ludwig City of Cooperstown	Tyler Michel City of Jamestown
Pam Klabo Normont	Gabe Laber HDR	Marisha Lunde AE2S	Dennis Miranowski City of Wahpeton
Jayne Klecker AE2S	Emilee Lachenmeier NDDEQ	Seth Lynne Apex Engineering Group	Chuck Mischel NDRWSA
Jasper Klein AE2S	Ross Lagasse City of Bismarck	Matt Madson Vessco, Inc.	Jeff Moberg City of Tioga
	Eric Larson Interstate Engineering, Inc.		Matthew Moltzan City of Fargo

Bill Moran HDR	Karen Olson Ferguson Waterworks	Jamie Rath City of Mandan	Matthew Routledge City of Bismarck
Joel Morgan Flow Control Automation, Inc.	Mitch Orstad Ferguson Waterworks	David Reinarts City of Garrison	Joe Rowell City of Jamestown
Kevin Morlan City of Fargo	Linda Oster City of Bismarck	Dillon Reiner City of Dickinson	Randel Sand City of Tuttle
Bradley Moser City of Medina	Daniel Overmoe City of Mayville	Joe Reiter Houston Engineering, Inc.	Blake Sander Apex Engineering Group
Mitchell Murray NDDEQ	Mark Paddock City of Minot	Kevin Renslow TNEMEC/ Coating Resources, Inc.	Daryl Saxberg City of Jamestown
Paul Nelson Core & Main	Melanie Parvey City of Grand Forks	John Reynolds City of Minot	Chris Saxton DN Tanks
Steve Nelson AE2S	Tim Paustian Apex Engineering Group	Keegan Richards Bartlett & West	Scott Schaefer AE2S
Bob Nicol Public Works Sales Holdings, LLC	Alice Pekarski City of Montpelier	Tom Ridley Standing Rock Water System	Jacob Schafer NDDEQ
Timothy Nustad City of Fargo	DelRon Peters HDR	Kent Ritterman Moore Engineering Inc	Gabe Schell City of Bismarck
Ken Nysether HDR	Dean Peterson Interstate Engineering	Abby Ritz AE2S	Boyd Schmaltz City of Bismarck
Wayne Offerdahl City of Fargo	Mike Plante LRE Water	Grace Rixen-Hanford Southwest Water Authority	Aaron Schmidt City of Bismarck
Cal Oldenburg AE2S	Dan Portlock City of Fargo	Wade Rock City of Portal	Scott Schneider Apex Engineering Group
Nathan Olmsted ND Rural Water Systems Association	Dewey Prinzing KLM Engineering, Inc.	Karl Rockeman NDDEQ	Rachel Schultz AE2S
Keith Olson City of Harvey	Matt Prochniak Moore Engineering, Inc.	Jeff Roehrich City of Fessenden	Tami Schumacher William E Young Co.
Karla Olson Apex Engineering Group	Thomas Pullen Brierley Associates	Cordell Roemmich City of Fargo	Dustin Scott City of West Fargo
Todd Olson City of Jamestown	Michael Quamme Apex Engineering Group	Kyle Rogahn City of Wahpeton	Magdaline Seibel NDDEQ
Scott Olson City of Fargo	Meredith Quinn AE2S	Rusten Roteliuk Houston Engineering, Inc.	J.D. Seidel Contech Engineered Solutions LLC.
	Zac Ranisate Burian & Associates		

Jeremy Sheeley Ferguson Waterworks	Jacob Strombeck AE2S	Don Wald City of Wahpeton	Keith Winson City of Maddock
Dylan Sherwood City of Fargo	Mike Stulz City of Fargo	Darin Waldner Dakota Pump and Control	Henok Woldeyes NDDEQ
Brian Simmons Bolton & Menk	Darrell Sweep City of Fargo	Sarah Waldon Feld NDDEQ	Brent Wolf City Of Enderlin
Rich Slagle Moore Engineering Inc	Gary Syverson Team Laboratory Chemical	Brady Wall Houston Engineering, Inc.	Jordan Wolf City of Carrington
Dean Sletten Apex Engineering Group	Adam Thomas City of Washburn	Jerry Wallace City of West Fargo	Slawek Wolski Ulteig Jason Wolsky City of Carrington
Justin Smith City of Watford City	Jame Todd Bartlett & West	Sandi Washek NDDEQ	Jeremy Wright City of Grenora
Phillip Smith Sherwin Williams	Elizabeth Tokach Duran NDDEQ	Greg Wavra NDDEQ	Ken Yarbrough City of Sawyer
Luci Snowden Knife River Corporation	Chad Troitte Core & Main	Mark Wax USDA Rural Development	Brian Young City of Williston
Jarda Solc AE2S	Jon Trostad City of McVile	Darryl Wehner City of Dickinson	Adam Zach AE2S
Jason Sorenson City of Minot	Mike Trythall NDDEQ	Tom Welle Apex Engineering Group	Hallie Zacharczuk Bartlett & West
Russell Sorenson PKG	Don Tucker City of Fargo	Andrew Werder KLJ	Duane Zastoupil City of Dickinson
Matt Sperry NDDOT	Jim Uhlman NDDEQ	Paul Wieland City of Bismarck	Joe Zauner American Ductile Iron Pipe
Mark Staskywicz City of Kenmare	Daryl Unser Granse/Trio Sales LLC	Ira Williams Bismarck Water Treatment Plant	Gary Zuroff City of Dickinson
Kenny Stevenson City of Grand Forks	Murali Vegi Apex Engineering Group		
Gregg Stewart NDDEQ	Lloyd Veil City of Streeter		
Edwin Stickel Jr City of Montpelier	Jess Wagner KLJ		
Scott Stockdill NDDEQ	Evan Wahl NDDEQ		
Jacob Stokes NDDEQ	Steve Wahler Bolton & Menk		



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Letter to Municipal Systems and Operators

January 10, 2022

System Official or Operator:

Effective as of January 1, 2022, there will be an increase in fees for water/wastewater exams and water/wastewater certificate renewals. The increases are as follows:

1. Exams will increase from **ten** dollars per exam to **fifty** dollars per exam.
2. Renewal fees will increase from **five** dollars per certificate to **twenty-five** dollars per certificate.

The initial fee increases proposal was published by all North Dakota public newspapers in May 2021. The public comment period was open until July 23, 2021, with a public hearing held on July 12, 2021. No comments were received. The proposed increases were presented to the North Dakota Legislative Council on December 5, 2021 and were approved by the Council with the new fees taking effect as of January 1, 2022. Please refer to North Dakota Amendment 33.1-19-01-06.

Sincerely,



Shawn Heinle
ND Department of Environmental Quality
Division of Municipal Facilities

sh:ll

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701-328-5188

Division of
Municipal Facilities
701-328-5211

Division of
Waste Management
701-328-5166

Division of
Water Quality
701-328-5210

Division of Chemistry
701-328-6140
2635 East Main Ave
Bismarck ND 58501

NDWPCC JOINT BOARD OFFICERS MEETING MINUTES

January 5, 2022

Online - Teams

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 5, 2022, online through Teams. A spreadsheet was generated indicating those in attendance and will be available upon request.

The meeting was called to order at 2:00 p.m. by NDWPCC Jim Lennington.

For the first order of business President Lennington called for a motion to dispense with the reading of the minutes from the October 12, 2021, minutes and approve the copy emailed to all board members. Dallas Grossman so moved, Jake Schafer seconded, and the motion carried.

Next, President Lennington called for the Treasurer's Report. Shawn Heinle read the 2021 NDWPCC year-end financial report, which showed a net loss of \$19,443.14 and total assets of \$125,823.68. President Quamme asked for any discussion. Secretary Heinle explained that part of the deficit was due to publications of the Official Bulletin. The income from advertising was \$6,666.35, while the costs for publication was \$20,459.32. The board asked Secretary Heinle to do a comparison to the previous three-four years and send an email with the data to the board. President Lennington called for a motion to approve the Treasurer's Report. Jake Schafer so moved, Greg Wavra seconded, and the motion carried.

Next, President Lennington called for any old business. Secretary Heinle asked about in-person spring training for 2022 and topics. He indicated an email was sent last November asking for presentations with no response. Several conference members said that the timing of the email was bad. Also, several members indicated the information in the email was not circulated to everyone. After further discussion the decision was made to have in-person training and to reissue the email asking for presentations with a one-week response time-table. Secretary Heinle also indicated that online training would also be available for operators. He indicated that many operators liked the flexibility the training offered.

Other old business included the previously discussed liability waiver for the conference. Jake Schafer said he approached several law firms on the subject. The firms indicated that the waiver would be relatively easy to create and then could be added to future registrations. Cost would be around \$500. Greg Wavra made a motion for Jake Schafer and Shawn Heinle to spend the \$500 on the liability waiver for conference activities with any potential changes to be presented at the May joint board meeting. Scott Schneider seconded. Motion passed.

Also, Jake Schafer discussed the purchase of replacement equipment as previously approved and the creation of an equipment replacement spreadsheet that was discussed in the previous meeting. The spreadsheet will be presented at the next board meeting.

President Lennington called for new business. Secretary Heinle asked about the next board meeting in May, whether it will still be in-person in Bismarck. There was a variety of discussion on the subject, including the possibility of broadcasting the meeting for those who would not be able to attend. Jake Schafer said it would be possible to set up. This then led to a discussion on if the in-person meeting was even necessary since many of the other boards are holding their meetings virtually. Luci Snowden proposed having the in-person meeting, with those unable to attend emailing Secretary Heinle. This was agreed upon by the group.

President Lennington then called for a motion to adjourn. Motion made by Greg Wavra, seconded by Marty Haroldson. Meeting adjourned.

The meeting adjourned at 2:59 p.m.

Respectfully submitted,

Shawn Heinle
Secretary/Treasurer

SH:ll



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December 20, 2021

U.S. ENVIRONMENTAL PROTECTION AGENCY-WaterISAC ADVISORY

To: Water and Wastewater Systems, SLTT Governments and Private Sector Stakeholders

(TLP:AMBER) Cybersecurity Recommendations in Consideration of the CISA/FBI/NSA Advisory on Russian State-Sponsored Cyber Operations Against U.S. Critical Infrastructure

On December 16, 2021, the Cybersecurity and Infrastructure Security Agency (CISA), FBI, and the National Security Agency (NSA) issued a joint advisory on Russian state-sponsored cyber operations against United States critical infrastructure (see attachment for advisory AA21-350B).

What is the Purpose of the CISA/FBI/NSA Joint Advisory?

The joint advisory describes commonly observed tactics, techniques, and procedures; detection actions; incident response guidance; and mitigations. It is intended to help critical infrastructure reduce the risk presented by these threats and to encourage the adoption of a heightened state of awareness during the holidays (a time when many disconnect from work).

The joint advisory complemented a December 15, 2021 CISA Insights publication - [Preparing For and Mitigating Potential Cyber Threats](#). It asserted that due to persistent cyber-threats from sophisticated actors, including nation-states and their proxies, critical infrastructure owners and operators should take immediate steps to strengthen their computer network defenses. These actors have the capability to leverage network access for targeted operations with the potential to disrupt critical infrastructure functions.

What Actions are Recommended for Water and Wastewater Systems?

Water and wastewater system owners and operators should review the attached joint advisory and assess how to apply the recommended detection, incident response, and mitigation actions to their operations. Key actions for water and wastewater systems include the following:

- 1) **Require Strong, Unique Passwords**. Malicious cyber actors repeatedly use stolen or easily guessed credentials. Consider forcing a global reset of all passwords in your environment before staff begin taking time off.
- 2) **Implement Multi-Factor Authentication**. After changing passwords, make implementing multi-factor authentication (MFA) a priority. MFA significantly reduces your risk from almost all opportunistic attempts to gain entry into your systems.
- 3) **Address known exploited vulnerabilities**. This could include patching and/or additional controls such as network segmentation to protect vulnerable devices that cannot effectively be patched. CISA maintains a catalog of [Known Exploited Vulnerabilities](#) that utilities are encouraged to review to identify vulnerable systems. Also, prioritize network segmentation to prevent unauthorized access to your operational technology (OT) systems from the internet and to reduce connectivity between OT and vulnerable information technology (IT) systems.
- 4) **Surge Support**. Identify surge support for responding to an incident. Malicious cyber actors are known to target organizations on weekends and holidays when there are gaps in organizational cybersecurity.



- 5) **Network/Systems Awareness.** Be alert for unusual behavior in OT and IT systems, such as unexpected reboots of digital controllers and other OT hardware and software, and delays or disruptions in communication with field equipment or other OT devices. Enhance logging to investigate anomalous activity – including collecting more logs and increasing storage capacity and retention time.
- 6) **Backup Data.** Implement and test data backup procedures on both IT and OT networks and ensure copies of backups are isolated (stored offline) from the network.
- 7) **Incident Response Plans.** Create, maintain, and exercise a cyber incident response and continuity of operations plans.
- 8) **Manual Operations.** Have a resilience plan that addresses how to operate your system if you lose access to or control of critical OT or IT systems – including the ability to sustain manual operations for extended periods.

How Can I Learn More About the CISA/FBI/NSA Joint Advisory?

WaterISAC and EPA, in conjunction with water sector associations, will hold a TLP:AMBER webinar on the dates/times listed below to present and discuss the joint advisory. The webinar is intended for water and wastewater system owners and operators, along with state, local, tribal, and territorial (SLTT) government officials and private sector organizations that directly support water and wastewater system operations. Registration links for the webinar are provided. For those unable to join live, the webinar will be recorded and posted to the [WaterISAC website](#) for members and trial members.

- Date 1: Wednesday, December 29, 2021, 2:00 – 3:00 pm EST.
Register: <https://attendee.gotowebinar.com/register/8355582904364747792>
- Date 2: Wednesday, January 5, 2022, 2:00 – 3:00 pm EST.
Register: <https://attendee.gotowebinar.com/register/5595566826088940559>

Additional Resources

- [Protecting Against Malicious Cyber Activity before the Holidays](#) (White House; 12/16/21)
- [Joint Cybersecurity Advisory Ongoing Cyber Threats to U.S. Water and Wastewater Systems](#) (CISA, FBI, NSA, EPA; 10/14/21)
- [WaterISAC's 15 Cybersecurity Fundamentals for Water and Wastewater Utilities](#)
- [U.S. EPA Cybersecurity Best Practices for the Water Sector](#)
- [AWWA Resources on Cybersecurity](#)

WaterISAC Incident Reporting

WaterISAC encourages all utilities that have experienced malicious or suspicious activity to email analyst@waterisac.org, call 866-H2O-ISAC, or use [the confidential online incident reporting form](#). Reporting to WaterISAC helps utilities and stakeholders stay aware of the threat environment of the sector.

TLP:AMBER Definition: *Recipients may only share TLP:AMBER information with members of their own organization, and with clients or customers who need to know the information to protect themselves or prevent further harm. For more information on the Traffic Light Protocol, see <https://www.cisa.gov/tlp>.*

JOINT CYBERSECURITY ADVISORY

Co-Authored by:



TLP:AMBER

Product ID: A20-350B

December 16, 2021

Understanding and Mitigating Russian State-Sponsored Cyber Threats to U.S. Critical Infrastructure

SUMMARY

This joint Cybersecurity Advisory (CSA)—authored by the Cybersecurity and Infrastructure Security Agency (CISA), Federal Bureau of Investigation (FBI), and National Security Agency (NSA)—provides an overview of Russian state-sponsored cyber operations; commonly observed tactics, techniques, and procedures (TTPs); detection actions; incident response guidance; and mitigations. This overview is intended to help the cybersecurity community reduce the risk presented by these threats.

CISA, the FBI, and NSA encourage the cybersecurity community—especially critical infrastructure network defenders—to adopt a heightened state of awareness and to conduct proactive threat hunting, as outlined in the [Detection](#) section. Additionally, CISA, the FBI, and NSA strongly urge network defenders to implement the recommendations listed below and detailed in the [Mitigations](#) section. These mitigations will help organizations improve their functional resilience by reducing the risk of compromise or severe business degradation.

1. **Be prepared.** Confirm reporting processes and minimize personnel gaps in IT/IO security coverage. Create, maintain, and exercise a cyber incident response plan, resilience plan, and

Actions critical infrastructure organizations should implement to immediately strengthen their cyber posture.

- Patch all systems. Prioritize patching [known exploited vulnerabilities](#).
- Implement multi-factor authentication.
- Use antivirus software.
- Develop internal contact lists and surge support.

To report suspicious or criminal activity related to information found in this Joint Cybersecurity Advisory, contact your local FBI field office at www.fbi.gov/contact-us/field, or the FBI's 24/7 Cyber Watch (CyWatch) at (855) 292-3937 or by e-mail at CyWatch@fbi.gov. When available, please include the following information regarding the incident: date, time, and location of the incident; type of activity; number of people affected; type of equipment used for the activity; the name of the submitting company or organization; and a designated point of contact. To request incident response resources or technical assistance related to these threats, contact CISA at CISAServiceDesk@cisa.dhs.gov. For NSA client requirements or general cybersecurity inquiries, contact the Cybersecurity Requirements Center at 410-854-4200 or Cybersecurity_Requests@nsa.gov.

DISCLAIMER: This document is distributed as TLP:AMBER. Recipients may only share TLP:AMBER information with members of their own organization, and with clients or customers who need to know the information to protect themselves or prevent further harm. Sources are at liberty to specify additional intended limits of the sharing; these must be adhered to. For more information on the Traffic Light Protocol, see <https://www.cisa.gov/tlp>.

TLP:AMBER

- continuity of operations plan so that critical functions and operations can be kept running if technology systems are disrupted or need to be taken offline.
2. **Enhance your organization's cyber posture.** Follow best practices for identity and access management, protective controls and architecture, and vulnerability and configuration management.
 3. **Increase organizational vigilance.** Stay current on reporting on this threat. [Subscribe](#) to CISA's [mailing list and feeds](#) to receive notifications when CISA releases information about a security topic or threat.

CISA, the FBI, and NSA encourage critical infrastructure organization leaders to review CISA Insights: [Preparing for and Mitigating Cyber Threats](#) for information on reducing cyber threats to their organization.

TECHNICAL DETAILS

Note: this advisory uses the MITRE ATT&CK® for Enterprise framework, version 10. See the [ATT&CK for Enterprise](#) for all referenced threat actor tactics and techniques.

Historically, Russian state-sponsored advanced persistent threat (APT) actors have used common but effective tactics—including spearphishing, brute force, and exploiting known vulnerabilities against accounts and networks with weak security—to gain initial access to target networks. Vulnerabilities known to be exploited by Russian state-sponsored APT actors for initial access include:

- [CVE-2018-13379](#) FortiGate VPNs
- [CVE-2019-1653](#) Cisco router
- [CVE-2019-2725](#) Oracle WebLogic Server
- [CVE-2019-7609](#) Kibana
- [CVE-2019-9670](#) Zimbra software
- [CVE-2019-10149](#) Exim Simple Mail Transfer Protocol
- [CVE-2019-11510](#) Pulse Secure
- [CVE-2019-19781](#) Citrix
- [CVE-2020-0688](#) Microsoft Exchange
- [CVE-2020-4006](#) VMWare (note: this was a zero-day at time.)
- [CVE-2020-5902](#) F5 Big-IP
- [CVE-2020-14882](#) Oracle WebLogic
- [CVE-2021-26855](#) Microsoft Exchange (Note: this vulnerability is frequently observed used in conjunction with [CVE-2021-26857](#), [CVE-2021-26858](#), and [CVE-2021-27065](#))

Russian state-sponsored APT actors have also demonstrated tradecraft and cyber capabilities by compromising third-party infrastructure, compromising third-party software, or developing and deploying custom malware. The actors have also demonstrated the ability to maintain persistent, undetected, long-term access in compromised environments—including cloud environments—by using legitimate credentials.

In some cases, Russian state-sponsored cyber operations against critical infrastructure organizations have specifically targeted operational technology (OT)/industrial control systems (ICS) networks with

destructive malware. See the following advisories and alerts for information on historical Russian state-sponsored cyber-intrusion campaigns and customized malware that have targeted ICS:

- ICS Advisory [ICS Focused Malware – Havex](#)
- ICS Alert [Ongoing Sophisticated Malware Campaign Compromising ICS \(Update E\)](#)
- ICS Alert [Cyber-Attack Against Ukrainian Critical Infrastructure](#)
- Technical Alert [CrashOverride Malware](#)
- CISA MAR [HatMan: Safety System Targeted Malware \(Update B\)](#)
- CISA ICS Advisory [Schneider Electric Triconex Tricon \(Update B\)](#)

Russian state-sponsored APT actors have used sophisticated cyber capabilities to target a variety of U.S. and international critical infrastructure organizations, including those in the Defense Industrial Base as well as the Healthcare and Public Health, Energy, Telecommunications, and Government Facilities Sectors. High-profile cyber activity publicly attributed to Russian state-sponsored APT actors by U.S. government reporting and legal actions includes:

- **Russian state-sponsored APT actors targeting state, local, tribal, and territorial (SLTT) governments and aviation networks, September 2020, through at least December 2020.** Russian state-sponsored APT actors targeted dozens of SLTT government and aviation networks. The actors successfully compromised networks and exfiltrated data from multiple victims.
- **Russian state-sponsored APT actors' global Energy Sector intrusion campaign, 2011 to 2018.** Russian state-sponsored APT actors conducted a multi-stage intrusion campaign in which they gained remote access to U.S. and international Energy Sector networks, deployed ICS-focused malware, and collected and exfiltrated enterprise and ICS-related data.
- **The Russian General Staff Main Intelligence Directorate's (GRU's) Main Center of Special Technologies (GTsST) campaign against Ukrainian critical infrastructure, 2015 and 2016.** GTsST or Unit 74455 has previously been attributed as [Sandworm Team](#) by Mandiant, VOODOO BEAR by CrowdStrike, and ELECTRUM by Dragos. GTsST actors conducted a cyberattack against Ukrainian energy distribution companies, leading to multiple companies experiencing unplanned power outages in December 2015. The actors deployed [BlackEnergy](#) malware to steal user credentials and used its destructive malware component, KillDisk, to make infected computers inoperable. In 2016, GTsST actors conducted a cyber-intrusion campaign against a Ukrainian electrical transmission company and deployed [CrashOverride](#) malware specifically designed to attack power grids.

For more information on recent and historical Russian state-sponsored malicious cyber activity, see the referenced products below or the CISA webpage [cisa.gov/Russia](https://www.cisa.gov/Russia).

- Joint FBI-DHS-CISA CSA [Russian Foreign Intelligence Service \(SVR\) Cyber Operations: Trends and Best Practices for Network Defenders](#)
- Joint NSA-FBI-CISA CSA [Russian GRU Conducting Global Brute Force Campaign to Compromise Enterprise and Cloud Environments](#)
- Joint FBI-CISA CSA [Russian APT Actors Compromise U.S. Government Targets](#)

- Joint CISA-FBI CSA [APT Actors Chaining Vulnerabilities against SLTT, Critical Infrastructure, and Elections Organizations](#)
- CISA's webpage [Remediating Networks Affected by the SolarWinds and Active Directory/M365 Compromise](#)
- CISA Alert [Russian Government Cyber Activity Targeting Energy Sector and Other Critical Infrastructure Sectors](#)
- CISA ICS: Alert [Cyber-Attack Against Ukrainian Critical Infrastructure](#)

Table 1 provides common, publicly known TTPs employed by Russian state-sponsored APT actors, which map to the MITRE ATT&CK for Enterprise framework, version 10. **Note:** these lists are not intended to be all inclusive. Russian state-sponsored actors have modified their TTPs before based on public reporting.^[1] Therefore, CISA, the FBI, and NSA anticipate the Russian state-sponsored actors may modify their TTPs as they deem necessary to reduce their risk of detection.

Table 1: Common Tactics and Techniques Employed by Russian State-Sponsored APT Actors

Tactic	Technique	Procedure
Reconnaissance [TA0043]	Active Scanning: Vulnerability Scanning [T1595.002]	Russian state-sponsored APT actors have performed large-scale scans in an attempt to find vulnerable servers.
	Phishing for Information [T1598]	Russian state-sponsored APT actors have conducted spearphishing campaigns to gain credentials of target networks.
Resource Development [TA0042]	Develop Capabilities: Malware [T1587.001]	Russian state-sponsored APT actors have developed and deployed malware, including ICS-focused destructive malware.
Initial Access [TA0001]	Exploit Public Facing Applications [T1190]	Russian state-sponsored APT actors use publicly known vulnerabilities, as well as zero-days, in internet-facing systems to gain access to networks.
	Supply Chain Compromise: Compromise Software Supply Chain [T1195.002]	Russian state-sponsored APT actors have gained initial access to victim organizations by compromising trusted third-party software. Notable incidents include M.E.Doc accounting software and SolarWinds Orion.
Execution [TA0002]	Command and Scripting Interpreter: PowerShell [T1059.003] and Windows Command Shell [T1059.003]	Russian state-sponsored APT actors have used <code>cmd.exe</code> to execute commands on remote machines. They have also used PowerShell to create new tasks on remote machines, identify configuration settings, exfiltrate data, and to execute other commands.

Tactic	Technique	Procedure
Persistence [TA0003]	Valid Accounts [T1078]	Russian state-sponsored APT actors have used credentials of existing accounts to maintain persistent, long-term access to compromised networks.
Credential Access [TA0006]	Brute Force: Password Guessing [T1110.001] and Password Spraying [T1110.003]	Russian state-sponsored APT actors have conducted brute-force password guessing and password spraying campaigns.
	OS Credential Dumping: NTDS [T1003.003]	Russian state-sponsored APT actors have exfiltrated credentials and exported copies of the Active Directory database <code>ntds.dit</code> .
	Steal or Forge Kerberos Tickets: Kerberoasting [T1558.003]	Russian state-sponsored APT actors have performed "Kerberoasting," whereby they obtained the Ticket Granting Service (TGS) Tickets for Active Directory Service Principal Names (SPN) for offline cracking.
	Credentials from Password Stores [T1555]	Russian state-sponsored APT actors have used previously compromised account credentials to attempt to access Group Managed Service Account (gMSA) passwords.
	Exploitation for Credential Access [T1212]	Russian state-sponsored APT actors have exploited Windows Netlogon vulnerability CVE-2020-1472 to obtain access to Windows Active Directory servers.
	Unsecured Credentials: Private Keys [T1552.004]	Russian state-sponsored APT actors have obtained private encryption keys from the Active Directory Federation Services (ADFS) container to decrypt corresponding SAML signing certificates.
	Command and Control [TA0011]	Proxy: Multi-hop Proxy [T1090.003]

For additional enterprise TTPs used by Russian state-sponsored APT actors, see the ATT&CK for Enterprise pages on [APT29](#), [APT28](#), and the [Sandworm Team](#), respectively. For information on ICS TTPs see the [ATT&CK for ICS](#) pages on the [Sandworm Team](#), [BlackEnergy](#) malware, [CrashOverride](#) malware, BlackEnergy's [KillDisk](#) component, and [NotPetya](#) malware.

DETECTION

Given Russian state-sponsored APT actors demonstrated capability to maintain persistent, long-term access in compromised enterprise and cloud environments, CISA, the FBI, and NSA encourage all critical infrastructure organizations to:

- **Implement robust log collection and retention.** Without a centralized log collection and monitoring capability, organizations have limited ability to investigate incidents or detect the threat actor behavior described in this advisory. Depending on the environment, examples include:
 - Native tools such as M365's Sentinel.
 - Third-party tools, such as Sparrow, Hawk, or CrowdStrike's Azure Reporting Tool (CRT), to review Microsoft cloud environments and to detect unusual activity, service principals, and application activity. **Note:** for guidance on using these and other detection tools, refer to CISA Alert [Detecting Post-Compromise Threat Activity in Microsoft Cloud Environments](#).
- **Look for behavioral evidence or network and host-based artifacts** from known Russian state-sponsored TTPs. See table 1 for commonly observed TTPs.
 - To detect password spray activity, review authentication logs for system and application login failures of valid accounts. Look for multiple, failed authentication attempts across multiple accounts.
 - To detect use of compromised credentials in combination with a VPS, follow the below steps:
 - Look for suspicious "impossible logins," such as logins with changing username, user agent strings, and IP address combinations or logins where IP addresses do not align to the expected user's geographic location.
 - Look for one IP used for multiple accounts, excluding expected logins.
 - Look for "impossible travel." Impossible travel occurs when a user logs in from multiple IP addresses that are a significant geographic distance apart (i.e., a person could not realistically travel between the geographic locations of the two IP addresses during the time period between the logins). **Note:** implementing this detection opportunity can result in false positives if legitimate users apply VPN solutions before connecting into networks.
 - Look for processes and program execution command-line arguments that may indicate credential dumping, especially attempts to access or copy the `ntds.dit` file from a domain controller.
 - Look for suspicious privileged account use after resetting passwords or applying user account mitigations.
 - Look for unusual activity in typically dormant accounts.
 - Look for unusual user agent strings, such as strings not typically associated with normal user activity, which may indicate bot activity.

- For organizations with OT/ICS systems:
 - Take note of unexpected equipment behavior; for example, unexpected reboots of digital controllers and other OT hardware and software.
 - Record delays or disruptions in communication with field equipment or other OT devices. Determine if system parts or components are lagging or unresponsive.

INCIDENT RESPONSE

Organizations detecting potential APT activity in their IT or OT networks should:

1. Immediately isolate affected systems.
2. Secure backups. Ensure your backup data is offline and secure. If possible, scan your backup data with an antivirus program to ensure it is free of malware.
3. Collect and review relevant logs, data, and artifacts.
4. Consider soliciting support from a third-party IT organization to provide subject matter expertise, ensure the actor is eradicated from the network, and avoid residual issues that could enable follow-on exploitation.
5. Report incidents to [CISA](#) and/or the FBI via your [local FBI field office](#) or the FBI's 24/7 CyWatch at (855) 292-3937 or CyWatch@fbi.gov.

Note: for OT assets, organizations should have a resilience plan that addresses how to operate if you lose access to—or control of—the IT and/or OT environment. Refer to the [Mitigations](#) section for more information.

See the joint advisory from Australia, Canada, New Zealand, the United Kingdom, and the United States on [Technical Approaches to Uncovering and Remediating Malicious Activity](#) for guidance on hunting or investigating a network, and for common mistakes in incident handling. CISA, the FBI, and NSA encourage critical infrastructure owners and operators to see CISA's [Federal Government Cybersecurity Incident and Vulnerability Response Playbooks](#). Although tailored to federal civilian branch (FCEB) agencies, these playbooks provide operational procedures for planning and conducting cybersecurity incident and vulnerability response activities and detail each step for both incident and vulnerability response.

Note: organizations should document incident response procedures in a cyber incident response plan, which organizations should create and exercise (as noted in the [Mitigations](#) section).

MITIGATIONS

CISA, the FBI, and NSA encourage all organizations to implement the following recommendations to increase their cyber resilience against this threat.

Be Prepared

Confirm Reporting Processes and Minimize Coverage Gaps

- Develop internal contact lists. Assign main points of contact for a suspected incident as well as roles and responsibilities and ensure personnel know how and when to report an incident.
- Minimize gaps in IT/OT security personnel availability by identifying surge support for responding to an incident. Malicious cyber actors are [known to target organizations on weekends and holidays](#) when there are gaps in organizational cybersecurity—critical infrastructure organizations should proactively protect themselves by minimizing gaps in coverage.
- Ensure IT/OT security personnel monitor key internal security capabilities and can identify anomalous behavior. Flag any identified IOCs and TTPs for immediate response. (See table 1 for commonly observed TTPs).

Create, Maintain, and Exercise a Cyber Incident Response, Resilience Plan, and Continuity of Operations Plan

- Create, maintain, and exercise a cyber incident response and continuity of operations plan.
- Ensure personnel are familiar with the key steps they need to take during an incident and are positioned to act in a calm and unified manner. Key questions:
 - Do personnel have the access they need?
 - Do they know the processes?
- For OT assets/networks,
 - Identify a resilience plan that addresses how to operate if you lose access to—or control of—the IT and/or OT environment.
 - Identify OT and IT network interdependencies and develop workarounds or manual controls to ensure ICS networks can be isolated if the connections create risk to the safe and reliable operation of OT processes. Regularly test contingency plans, such as manual controls, so that safety critical functions can be maintained during a cyber incident. Ensure that the OT network can operate at necessary capacity even if the IT network is compromised.
 - Regularly test manual controls so that critical functions can be kept running if ICS or OT networks need to be taken offline.
 - Implement data backup procedures on both the IT and OT networks. Backup procedures should be conducted on a frequent, regular basis. Regularly test backup procedures and ensure that backups are isolated from network connections that could enable the spread of malware.

- In addition to backing up data, develop recovery documents that include configuration settings for common devices and critical OT equipment. This can enable more efficient recovery following an incident.

Enhance your Organization's Cyber Posture

CISA, the FBI, and NSA recommend organizations apply the best practices below for identity and access management, protective controls and architecture, and vulnerability and configuration management.

Identity and Access Management

- Require multi-factor authentication for all users, without exception.
- Require accounts to have strong passwords and do not allow passwords to be used across multiple accounts or stored on a system to which an adversary may have access.
- Secure credentials. Russian state-sponsored APT actors have demonstrated their ability to maintain persistence using compromised credentials.
 - Use virtualizing solutions on modern hardware and software to ensure credentials are securely stored.
 - Disable the storage of clear text passwords in LSASS memory.
 - Consider disabling or limiting New Technology Local Area Network Manager (NTLM) and WDigest Authentication.
 - Implement Credential Guard for Windows 10 and Server 2016 (Refer to [Microsoft: Manage Windows Defender Credential Guard](#) for more information). For Windows Server 2012R2, enable Protected Process Light for Local Security Authority (LSA).
 - Minimize the AD attack surface to reduce malicious ticket-granting activity. Malicious activity such as "Kerberoasting" takes advantage of Kerberos' TGS and can be used to obtain hashed credentials that attackers attempt to crack.
- Set a [strong](#) password policy for service accounts.
- Audit Domain Controllers to log successful Kerberos TGS requests and ensure the events are monitored for anomalous activity.
 - Secure accounts.
 - Enforce the principle of least privilege. Administrator accounts should have the minimum permission they need to do their tasks.
 - Ensure there are unique and distinct administrative accounts for each set of administrative tasks.
 - Create non-privileged accounts for privileged users and ensure they use the non-privileged accounts for all non-privileged access (e.g., web browsing, email access).

Protective Controls and Architecture

- Identify, detect, and investigate abnormal activity that may indicate lateral movement by a threat actor or malware. Use network monitoring tools and host-based logs and monitoring tools, such as an endpoint detection and response (EDR) tool. EDR tools are particularly

useful for detecting lateral connections as they have insight into common and uncommon network connections for each host.

- Enable strong spam filters.
 - Enable strong spam filters to prevent phishing emails from reaching end users.
 - Filter emails containing executable files to prevent them from reaching end users.
 - Implement a user training program to discourage users from visiting malicious websites or opening malicious attachments.

Note: CISA, the FBI, and NSA also recommend, as a longer-term effort, that critical infrastructure organizations implement network segmentation to separate network segments based on role and functionality. Network segmentation can help prevent lateral movement by controlling traffic flows between—and access to—various subnetworks.

- Appropriately implement network segmentation between IT and OT networks. Network segmentation limits the ability of adversaries to pivot to the OT network even if the IT network is compromised. Define a demilitarized zone that eliminates unregulated communication between the IT and OT networks.
- Organize OT assets into logical zones by taking into account criticality, consequence, and operational necessity. Define acceptable communication conduits between the zones and deploy security controls to filter network traffic and monitor communications between zones. Prohibit ICS protocols from traversing the IT network.

Vulnerability and Configuration Management

- Update software, including operating systems, applications, and firmware on IT network assets, in a timely manner. Prioritize patching [known exploited vulnerabilities](#), especially those CVEs identified in this CSA, and then critical and high vulnerabilities that allow for remote code execution or denial-of-service on internet-facing equipment.
 - Consider using a centralized patch management system. For OT networks, use a risk-based assessment strategy to determine the OT network assets and zones that should participate in the patch management program.
 - Consider signing up for CISA's [cyber hygiene services](#), including vulnerability scanning, to help reduce exposure to threats. CISA's vulnerability scanning service evaluates external network presence by executing continuous scans of public, static IP addresses for accessible services and vulnerabilities.
- Use industry recommended antivirus programs.
 - Set antivirus/antimalware programs to conduct regular scans of IT network assets using up-to-date signatures.
 - Use a risk-based asset inventory strategy to determine how OT network assets are identified and evaluated for the presence of malware.
- Implement rigorous configuration management programs. Ensure the programs can track and mitigate emerging threats. Review system configurations for misconfigurations and security weaknesses.

- Disable all unnecessary ports and protocols
 - Review network security device logs and determine whether to shut off unnecessary ports and protocols. Monitor common ports and protocols for command and control (C2) activity.
 - Turn off or disable any unnecessary services (e.g., PowerShell) or functionality within devices.
- Ensure OT hardware is in read-only mode.

Increase Organizational Vigilance

- Regularly review reporting on this threat. Consider [signing up](#) for CISA notifications to receive timely information on current security issues, vulnerabilities, and high-impact activity.

RESOURCES

- For more information on Russian state-sponsored malicious cyber activity, refer to cisa.gov/Russia.
- Refer to CISA Analysis Report [Strengthening Security Configurations to Defend Against Attackers Targeting Cloud Services](#) for steps for guidance on strengthening your organizations cloud security practices.
- Leaders of small businesses and small and local government agencies should see [CISA's Cyber Essentials](#) for guidance on developing an actionable understanding of implementing organizational cybersecurity practices.
- Critical infrastructure owners and operators with OT/ICS networks, should review the following resources for additional information:
 - NSA and CISA joint CSA NSA and CISA Recommend Immediate Actions to Reduce Exposure Across Operational Technologies and Control Systems
 - CISA factsheet Rising Ransomware Threat to Operational Technology Assets for additional recommendations.

REWARDS FOR JUSTICE PROGRAM

If you have information on state-sponsored Russian cyber operations targeting U.S. critical infrastructure, contact the Department of State's Rewards for Justice Program. You may be eligible for a reward of up to \$10 million, which DOS is offering for information leading to the identification or location of any person who, while acting under the direction or control of a foreign government, participates in malicious cyber activity against U.S. critical infrastructure in violation of the Computer Fraud and Abuse Act (CFAA). Contact +1-202-702-7843 on WhatsApp, Signal, or Telegram, or send information via the Rewards for Justice secure Tor-based tips line located on the Dark Web. For more details refer to rewardsforjustice.net/malicious_cyber_activity.

CAVEATS

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REFERENCES

[1] Joint NCSC-CISA UK Advisory: Further TTPs Associated with SVR Cyber Actors
<https://www.ncsc.gov.uk/news/joint-advisory-further-ttps-associated-with-svr-cyber-actors>

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MEMORANDUM

TO: North Dakota Public Water Systems (PWS)
FROM: Division of Municipal Facilities – Drinking Water Program
RE: North Dakota Backflow Prevention and Cross Connection Control Program
DATE: September 1, 2021

As you know, North Dakota Administrative Code states that all public water systems need to provide cross-connection control within their water supply systems. The DEQ has been more flexible in enforcing this regulation in the past, however, effective April 1, 2022, the state will increase its emphasis on compliance and enforcement of this regulation. In the future, compliance (or lack of) will be indicated on your sanitary surveys.

All Community and Non-Transient PWSs will need a written Backflow Prevention and Cross Connection Control (BPCCC) containment program. The BPCCC containment program will help protect drinking water from backflow hazards. In addition to the required containment program, PWSs may voluntarily develop a BPCCC comprehensive program, which is industry standard best practice, to protect against all backflow hazards. Details about the required and voluntary programs, as well as available trainings and dates are available at NDDEQ's website at <https://deq.nd.gov/MF/BPCCC/>

North Dakota Administrative Code (NDAC) 33.1-17-01-19 (Protection of Public Water Systems) requires that water suppliers provide cross-connection control within their water supply systems. Commercial and residential facilities are required to protect the potable water supply in accordance with the local jurisdictional plumbing codes. If there is no local code, then the North Dakota Plumbing Code applies. The BPCCC program will ensure that PWSs are compliant with the regulations in NDAC 33.1-17-01-19.

NDAC 33.1-17-01-19 prohibits the installation or permitting of cross connections **except** when approved by the authority having jurisdiction and suitable protective devices are installed, tested, and maintained on a yearly schedule to ensure proper operation.

To develop their mandatory BPCCC containment programs, PWSs will be required to survey their systems to identify all potential cross connections that occur within publicly owned buildings or properties (city hall, fire station, etc.). They must then ensure all such hazards are protected through the proper backflow prevention device or assemblies. **This will enable the PWS to meet the basic containment program requirement.** PWSs may elect to develop even more robust BPCCC comprehensive programs on a voluntary basis.

If you have any questions concerning this memorandum, contact Jacob Schafer (701) 328-6375 or Shawn Heinle (701) 328-6627.

Drinking Water Program Directory

Program Administrator	Greg Wavra	701-328-5257
Acrylamide and Epichlorohydrin Rule	Jacob Stokes	701-328-6622
Arsenic Rule	Jacob Stokes	701-328-6622
Backflow Prevention Cross-Connection Control Program	Jacob Schafer	701-328-6375
Consumer Confidence Reports	LeeAnn Tillotson	701-328-5293
Disinfectant/Disinfection Byproducts Rule (TTHM, HAA5) Stage 1 and Stage 2 Rule	Olivia Griffith	701-328-6624
Electronic Reporting Information System (ERIS)	All Staff	701-328-5211
Filter and Backwash Recycle Rule	Jacob Stokes	701-328-6622
Fluoride Addition	Stacey Herreid	701-328-5287
Groundwater Rule	Maggie Siebel Jacob Stokes	701-328-5231 701-328-6622
Inspections: Northeast	Emily Christensen	701-328-5296
Inspections: Northwest	Mike Trythall	701-328-5269
Inspections: East	Jacob Schafer	701-328-6375
Inspections: South Central	Marlon Bell	701-328-6623
Lead and Copper Rule	Sandy Washek	701-328-5190
Surface Water Treatment Rule: Interim Enhanced, Long Term 1 Enhanced, Long Term 2 Enhanced	Stacey Herreid Mike Trythall	701-328-5287 701-328-5269
Microscopic Particulate Analysis (MPA)	Jacob Stokes	701-328-6622
Nitrate/Nitrite Program	Jacob Stokes	701-328-6622
Operator Certification	Craig Bartholomay	701-328-6626
Operator Expense Reimbursement/Public Notice Rule	LeeAnn Tillotson	701-328-5293
Operator Training	Shawn Heinle	701-328-6627
Pesticides (SOCs)	Olivia Griffith	701-328-6624
Primary and Secondary Inorganics	Jacob Stokes	701-328-6621
Public Water System Updates (changes to source, treatment, contact, etc.)	Maggie Siebel	701-328-5231
Radionuclide Rule: Gross Alpha, Total Radium, Uranium	Stacey Herreid	701-328-5287
Revised Total Coliform Rule Level 1 and 2 Assessments	Maggie Siebel Josh Seerup	701-328-5231 701-328-5257
Unregulated Contaminant Monitoring	LeeAnn Tillotson	701-328-5293
Volatile Organic Chemicals (VOCs)	Mike Trythall	701-328-5269

Central Phone: 701-328-5211

Fax: 701-328-5200

North Dakota Pollutant Discharge Elimination System Program Directory

Program Administrator	Marty Haroldson	701-328-5234
Animal Feeding Operations	Brady Espe Rachel Strommen	701-328-5228 701-328-5244
Biosolids	Sarah Waldron-Feld	701-328-5234
Construction/Industrial Stormwater	Dallas Grossman Sam Devries	701-328-5242 701-328-5236
Dewatering and Hydrostatic Testing	Sarah Waldron-Feld	701-328-5237
Discharge Monitoring Reports (DMRs)	All Staff	701-328-5210
DMR Quality Assurance (QA) Study	Marty Haroldson	701-328-5234
Industrial Pretreatment	Montana Kruske	701-328-5172
Inspections	All Staff	701-328-5210
Lagoon Overflows/Releases/Spills	All Staff	701-328-5210
MS4 Stormwater	Dallas Grossman Sam Devries	701-328-5242 701-328-5236
Public Notices/NDPDES Permits	All Staff	701-328-5210
Septic Pumper	Sam Devries	701-328-5236
Wastewater Discharge Reviews	All Staff	701-328-5210

Central Phone: 701-328-5210

Fax: 701-328-5200

RETIREMENT

Gregg Stewart, North Dakota Department of Environmental Quality Inspector, will be retiring this February. Gregg has served as the inspector of the Northeast region of the state of North Dakota for many years. He has been an employee of the state of North Dakota for 29 years. He now plans to spend his time with his wife, kids, grandkids, and continuing to run his business Stewart Apiaries. His time will be split between California and North Dakota. His fellow employees in the Department of Environmental Quality wish him well on his next adventure.

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