

NEBRASKA

DEPT. OF ENVIRONMENT AND ENERGY

Drinking Water Division

NEBRASKA
PUBLIC WATER SYSTEM
CAPACITY DEVELOPMENT PROGRAM
Report to the Governor
September 2020



Pete Ricketts, Governor

- This page intentionally left blank -

Table of Contents

| | |
|--|----|
| Executive Summary | 5 |
| Profile of Nebraska’s Pubic Water Systems | 6 |
| Background of the Capacity Development Program | 8 |
| Summary of Capacity Development Requirements | 8 |
| Regulatory Requirements for New Public Water Systems | 9 |
| Strategies for Existing Public Water Systems | 10 |
| Information Collection for Assistance Development | 10 |
| Training and Technical Assistance | 11 |
| Drinking Water State Revolving Fund Program | 12 |
| Sustainability Leads to Fewer Deficiencies | 14 |
| Looking Forward | 16 |
| Success Stories | 17 |
| Glossary | 18 |
| Attachment A: Title 179 NAC 2-015 Capacity Development for New Systems | 20 |
| Attachment B: Nebraska Sustainability Checklist for Public Water Systems | 21 |
| Attachment C: 2% Team Members | 22 |
| Attachment D: DWSRF Set-Aside Activities | 23 |
| Information on how to obtain a copy of this report | 24 |

- This page intentionally left blank -

Executive Summary

Resilience. The capacity of an individual, system, or community to regain a healthy existence despite adverse situations. Capacity. The maximum amount an individual, system, or community is able to contain or produce. Development. The process an individual, system, or community utilizes to expand.

The devastating floods of 2019 and the Coronavirus COVID-19 pandemic of 2020 have highlighted the need for public water systems to plan for contingencies. Capacity development ensures that a water system achieves sustainability. Building capacity strengthens the health of a public water system, providing resiliency to ensure our communities have a continual supply of safe drinking water. A safe and reliable source of water is necessary to protect public health, which is especially clear during the COVID-19 pandemic. Nebraska's Drinking Water Division (Division) continues to build meaningful relationships with the state's public water systems to support this essential service.

Within the Division, Nebraska's Capacity Development Program for Public Water Systems (Program) exists to maintain the provision of safe drinking water to approximately 82% of the state's population. The 1996 amendments to the federal Safe Drinking Water Act (SDWA) prioritized the technical, managerial, and financial development of public water systems and required states to implement strategies for providing this service. This 2020 Program Report to Governor Pete Ricketts (Report) summarizes accomplishments over the past three fiscal years, encompassing SFY 2017 through SFY 2019. In addition to successes, the Report outlines implementation of new strategies and provides a structure for improvement. This Report accentuates the importance of Nebraska's Capacity Development Program, as without the Program and Report, the United States Environmental Protection Agency (EPA) may withhold 20% of the Drinking Water State Revolving Fund Federal Capitalization Grant, resulting in approximately \$1.8 million of lost funding used to support the state's public water systems.

While a public water system is the main structure that provides safe drinking water, individuals and communities must work together to provide a safe and consistent water supply. Capacity development focuses on every aspect, taking an integrated approach for the health of the entire process, from the natural to the built environment, and all its human components. A unified approach ensures all components are working to full capacity, and with each other, creating resilient public water systems. Resilient systems are sustainable, requiring less outside assistance and/or enforcement actions.

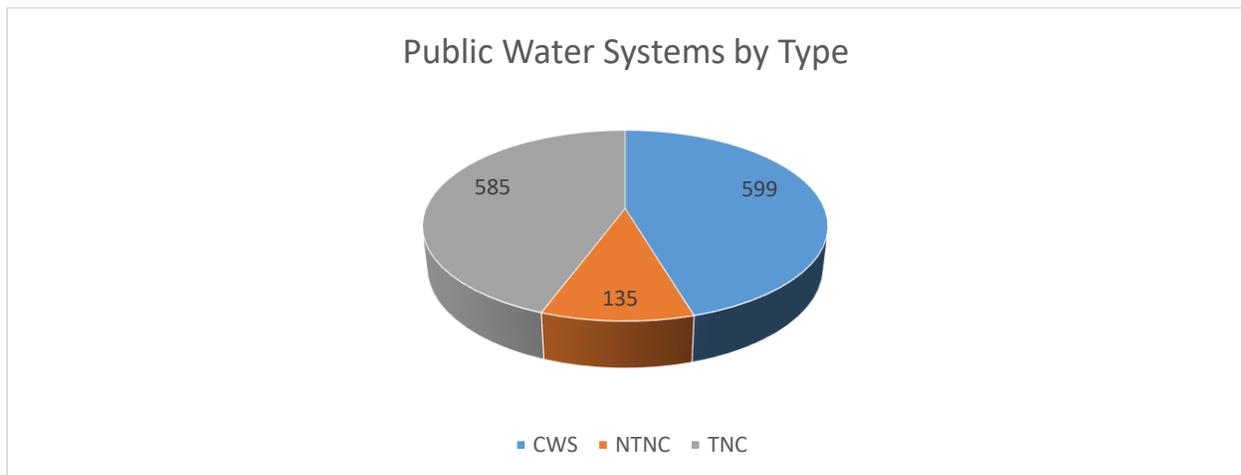
Over the past three years, hundreds of small water systems have received assistance from the Program. This assistance has shown an improvement in the number of compliance issues compared to the previous Report; provided board training to the owners of 33 small systems; assisted an average of 25 systems per month with technical deficiencies; contributed to over 100 training events throughout the state; and touched many aspects of assistance provided by the Division. The Drinking Water Division submits this report to Governor Pete Ricketts to illustrate the efficacy of the Capacity Development Program in assisting public water systems with maintaining safe and reliable drinking water for citizens in Nebraska.

Profile of Nebraska’s Public Water Systems

Nebraska regulates approximately 1,319 public water systems. The number of systems varies as new permits to operate are granted and existing permits are inactivated. Public water system (PWS) is a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections, or regularly serves at least 25 individuals daily at least 60 days out of the year. The three types of PWS are:

- Community water system (CWS) is a public water system that serves at least 15 service connections used by year-long residents, or regularly serves at least 25 year-long residents of the area served by the system. Examples of a CWS include cities, villages, or rural water districts.
- Non-transient non-community water system (NTNC) is a public water system that is not a community water system and that regularly serves at least 25 of the same persons over six months per year. Examples of an NTNC may include industrial businesses or schools.
- Transient non-community water system (TNC) is a non-community water system that does not regularly serve at least 25 of the same persons over six months per year. Examples of a TNC may include convenience stores, rest stops, or recreation areas.

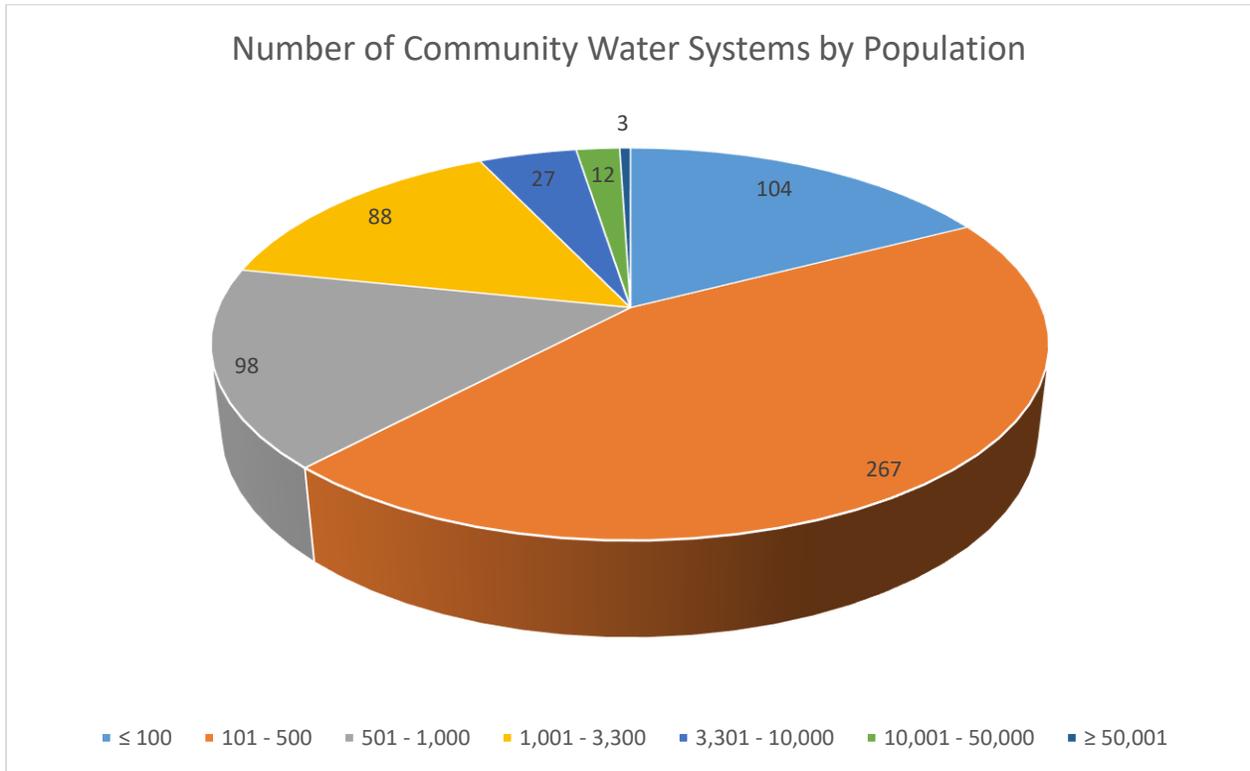
Of the 1,319 public water systems, 45.4% are community, 10.2% are non-transient non-community, and 44.4% are transient. The following chart shows the breakdown of the 1,319 permitted public water systems.



Community water systems serve approximately 1.58 million residents, or about 82% of the state’s population. The remainder are served by private wells, which are not regulated under the SDWA. In addition to community systems, non-transient non-community and transient non-community water systems serve tens of thousands of people on any given day.

Of the approximately 1.58 million residents served by the 599 community water systems, 72% of this population receive water from only 3% of the total community water systems. The remaining Nebraska residents served are within the service areas of 584 community systems. These 584 systems serve communities of 10,000 people or less. Of these 584 systems, 557, or 95%, off all community water systems serve no more than 3,300 people. The main focus of the Capacity Development Program is to assist small community systems, or those systems serving no more than 10,000 people. Based on the small percentage

of population to large number of systems needed to serve them, small systems often do not have the resources needed to achieve sustainability. The chart below outlines the number of community systems based on population served.



Although smaller systems often have more resource challenges than larger systems, overall, challenges for public water systems include:

- Adequate funds to upgrade or replace aging infrastructure;
- Availability of properly trained and licensed water operators;
- Availability of an adequate and safe supply of source water;
- Protection of the water source;
- Demands for lower service costs; and
- Regulatory compliance.

Capacity development targets these challenges to ensure sustainability of all public water systems in Nebraska.

Background of the Capacity Development Program

The Safe Drinking Water Act (SDWA) Amendments of 1996 created the Capacity Development Program. The three major components of the Capacity Development Program are:

1. Section 1420(a) New Systems

Under penalty of Drinking Water State Revolving Fund (DWSRF) withholding, States must have a program established to *ensure that all new community water systems and non-transient, non-community water systems commencing operations after October 1, 1999 demonstrate technical, managerial, and financial capacity with respect to each national primary drinking water regulation in effect, or likely to be in effect, on the date of commencement of operations.*

2. Section 1420(c) State Capacity Development Strategies

Under penalty of DWSRF withholding, the State must develop and implement a *strategy to assist public water systems in acquiring and maintaining technical, managerial, and financial capacity.*

3. Section 1452(a)(3) Assessment of Capacity

States may not provide DWSRF loan assistance to systems

- *which lack the technical, managerial, and financial capability to ensure compliance; or*
- *if the system is in significant noncompliance with any drinking water standard or variance.*

However, States may provide assistance if

- *the use of such assistance will ensure compliance; and*
- *the system has agreed to make the necessary changes in operation to ensure that it has the technical, managerial, and financial capacity to comply over the long term.*

In addition to managing a Capacity Development Program, under Section 1420(c) (3) of the SDWA, states must report the status of the program to the Governor every three years by September 30. Otherwise, 20% of the Drinking Water State Revolving Fund Federal Capitalization Grant may be forfeited.

Summary of Capacity Development Requirements

Capacity development supports drinking water systems with improving financial, managerial, and operational components, which includes system infrastructure. Full development of system capacity ensures public water systems are resilient and sustainable and can provide safe drinking water consistently, reliably, and cost-effectively. Federal SDWA capacity development provisions establish a flexible framework for the Division, its partners, and water systems to work together to acquire and maintain technical, financial, and managerial resources, achieving the health objectives of the 1996 SDWA.

Federal regulatory requirements from EPA directed development of each state's capacity development strategy to include five components. These elements address:

- Identification of systems in need of technical, financial, and managerial assistance.
- Determination of factors that enhance or impair a system's capacity development.
- Recommendations of how the state can use its authority and resources to help systems improve capacity.
- Measuring the success of a state's capacity development strategy.
- Public involvement in strategy development.

America's Water Infrastructure Act of 2018 amended the 1996 SDWA to require amendment of capacity development strategies to include a description of how each state will encourage the development of asset management plans that include best practices, training, technical assistance, and other activities to help with implementation of those plans. States must also include an update of these activities to encourage asset management practices in the Report to Governor.

The major objectives of our Capacity Development Strategy are to:

- Collect useful information about a system's capacity;
- Develop effective working relationships with the technical assistance providers in Nebraska;
- Educate the general public, owners and operators of systems, and train system operators;
- Encourage land use planning to protect the quality of groundwater;
- Require the use of water meters on system wells and service connections; and
- Support security measures for water systems.

All of these objectives help systems provide an adequate supply of safe drinking water to consumers on a continuous basis, achieve self-sufficiency, and maintain compliance with existing and upcoming regulations. A system's capacity should reflect sustainability; seeking outside assistance during disastrous situations only. As needs of public water systems evolve, so does the Division's toolbox of assistance, including the development of asset management in the capacity development strategy.

While asset management has always been a focus of the technical, managerial, and financial development assistance offered to public water systems by the Division, adoption of asset management as a separate element into the strategy is under construction. During the stakeholder meeting held July 1, 2020, discussion focused on best approaches to achieve the new SDWA requirement. In addition to asset management, a priority is implementation of new measurement strategies.

Regulatory Requirements for New Public Water Systems

To ensure all new community and new non-transient non-community public water systems have adequate capacity, regulatory requirements set forth in DHHS Regulations Governing Public Water Supply Systems Title 179 NAC 2 Section 015, Capacity Development for New Systems, need to be met before an operating permit is issued. Title 179 NAC2 Section 015 exists to meet the requirements of the Safe Drinking Water Act Section 1420(a). These procedures are in addition to all other requirements for obtaining a permit to operate as outlined in Title 179 Chapter 009.

A standard operating procedure (SOP) is used to verify the requirements of Title 179 NAC 2-015. Guidelines in the SOP use two control points to prevent a new water system from obtaining an operating permit if it lacks capacity. Each control point verifies set elements of the regulatory capacity requirements, and each element must be verified as complete before regulatory compliance with this rule is approved.

Regulatory elements include installing water meters, producing a water system map, outlining operation and maintenance costs with a preliminary budget, submission of contact information and emergency response actions, attainment of a properly licensed water operator, and construction of the system in conformance with the requirements stated in Title 179 Chapter 007, Siting, Design and Construction of Public Water Systems. New system requirements not only ensure the system is built to standards, but it ensures the new owners of the system understand the importance of sustainability and ongoing regulatory commitments. After new systems are permitted, they are covered by the capacity development strategy for existing systems to ensure capacity throughout the life of the system.

During state fiscal years 2017 through 2019 (July 1, 2016 thru June 30, 2019), 13 new community and non-transient non-community systems received operating permits.

Capacity Development for New System regulations are available in Attachment A.

Strategies for Existing Public Water Systems

While new system regulations target community and non-transient non-community water systems, existing strategies encompass all three types of public water systems, including transient non-community. To provide focus for appropriate interventions, Nebraska's Capacity Development Strategy for Existing Public Water Supply Systems was implemented on January 1, 2001. To address evolving needs, the strategy is updated periodically and, as of this report, is under review to include intercessions based on new EPA requirements, emerging technology, new risks, and improved assessment and measurement tools.

The foundation of the strategy focuses on small public water systems, which is defined by EPA as systems serving 10,000 people or less. All but 15 systems in Nebraska fall into this category. Of those small systems, 81% serve 500 or fewer people. Often, it is these very small systems that struggle to remain sustainable, and help provided them through the capacity development program is essential.

Training and technical assistance remain the cornerstone of the capacity development strategy to ensure contact is made with systems in need of support. Not only does training provide the needed expertise to operate a water system, it provides necessary education and resources to properly manage and finance a system. Technical assistance provides additional training, solidifying the knowledge and skills needed to maintain regulatory compliance.

A copy of the current strategy is available online at <http://deq.ne.gov/NDEQProg.nsf/OnWeb/PWS>.

Information Collection for Assistance Development

Capacity development spans all aspects of a public water system. While technical, managerial, and financial elements often function separately within a system, the system cannot achieve sustainability without complete understanding and integration of each element. For example, managers of a water

system often set water rates. Without consideration of infrastructure, budgets, and regulatory requirements, rates may be set based on pressure to keep rates low, rather than an understanding of what revenue the system needs to operate. Likewise, the Division must integrate with supporting partners, chiefly technical assistance providers and other regulatory agencies, to collect information for analysis. Opportunities to address water system deficiencies are provided from formal mechanisms of obtaining information, as well as informal discussions from within the Division and among supporting partners to ensure opportunities for outreach are brought to attention.

Routine sanitary surveys (RSS) provide information for follow up with systems to support development of capacity. Technical difficulties are apparent based on deficiencies from the RSS, which often include recordkeeping problems and improper cross connection control requirements. Insight on managerial and financial aspects are obtained using a sustainability checklist. This information allows analysis from data such as rate reviews, budgets, source water protection, and water system policy and procedures. This set of data is scored based on achievement of different elements, allowing for a quantitative approach. If a system is below a set threshold, assistance is offered and targeted based on results of the checklist. To ensure management is involved, a letter is sent to the owner explaining the deficiencies found, along with encouragement to accept assistance upon follow up from a technical assistance provider. A copy of the Nebraska Sustainability Checklist for Public Water Systems is provided as Attachment B.

Other forms of data collection include issuance of Administrative Orders to correct significant deficiencies; an operator needs survey collected during an RSS; a system needs survey sent to the Division on a yearly basis from systems anticipating funding needs; direct requests from water system personnel; capacity assessments of systems seeking DWSRF funding; and discussions with Division personnel and technical assistance providers.

Training and Technical Assistance

Fundamentals of running a public water system must ensure drinking water is provided on a continuous basis. Proper training is essential to ensure water operators are able to obtain and hold appropriate licenses to operate every Nebraska public water system. The Division held 30 water operator training courses applicable to various grade levels during state fiscal years 2017 through 2019. As a result, 492 water operator licenses were issued for Grades 1 through IV.

All public water systems are required to obtain the services of an operator holding a valid license equal to, or greater than, the classification of the water system. Grade IV is Nebraska's lowest level of license for a person qualified to operate a community or non-transient non-community water system. Grade I is the highest. 397 of the licenses issued during the past three years were for Grade IV.

Grade V water operators are not included in this report. A Grade V license is issued to an individual who operates a transient non-community water system and is not required to be renewed. All other water operator licenses require continuing education for renewal every two years.

Many opportunities exist for attainment of continuing education hours for license renewal. In addition to the water operator training classes offered by the Division, additional trainings are held in collaboration with Midwest Assistance Program (MAP), Nebraska Rural Water Association (NeRWA), the Nebraska Section of American Water Works Association (NSAWWA) and League of Nebraska Municipalities (LoNM). On average, at least 30 one-day workshops are held annually statewide for Grades I – IV. Several multi-

day conferences are held in various locations, as well. Workshops and conferences are attended by the Division to support the needs of water system personnel, as well as offer training presentations and regulatory updates. Capacity development training is based on general deficiencies found in the sustainability checklist completed during routine sanitary surveys.

Board training is offered to water system boards and personnel, including operators and clerks, and emphasizes the importance of a sustainable water system. This training is performed through a contract currently awarded to Nebraska Rural Water Association. Many aspects of capacity development are presented and discussed, including asset management, Open Meeting Act requirements, capital improvement, board responsibilities, long-term planning, rate setting, establishing policies and procedures, communication, and succession planning. Requiring operators, clerks, and board members attend training together allows discussion and a greater understanding of everyone's role in the system, which helps bring the technical, managerial, and financial aspects of capacity development into cohesion.

Technical assistance is provided public water systems by the entire Division, as well as the current technical assistance contract held by Midwest Assistance Program (MAP). From 24-hour emergency call assistance, to onsite visits and expertise provided from the Division offices, each system has available the resources to help in any situation. In addition to assistance from the Division, MAP is instrumental in providing support to systems to clear deficiencies found during routine sanitary surveys. These sanitary surveys are performed by field personnel every three years for community and non-transient non-community systems, and on a five-year rotation for transient non-community systems. Approximately 400 sanitary surveys are performed annually. Small systems that lack the resources or understanding to return to compliance are offered help from licensed water operators with MAP. This process works well, as the technical assistance providers maintain good rapport with the system operators and personnel. As a result of the technical assistance provided by MAP, an average of 62% of systems correct deficiencies within a month of contact.

Attachment C explains the past and present contracts with collaborating partners, also known as the 2% Team, in reference to the specific set-aside funding through the Drinking Water State Revolving Fund (DWSRF) program.

Drinking Water State Revolving Fund Program

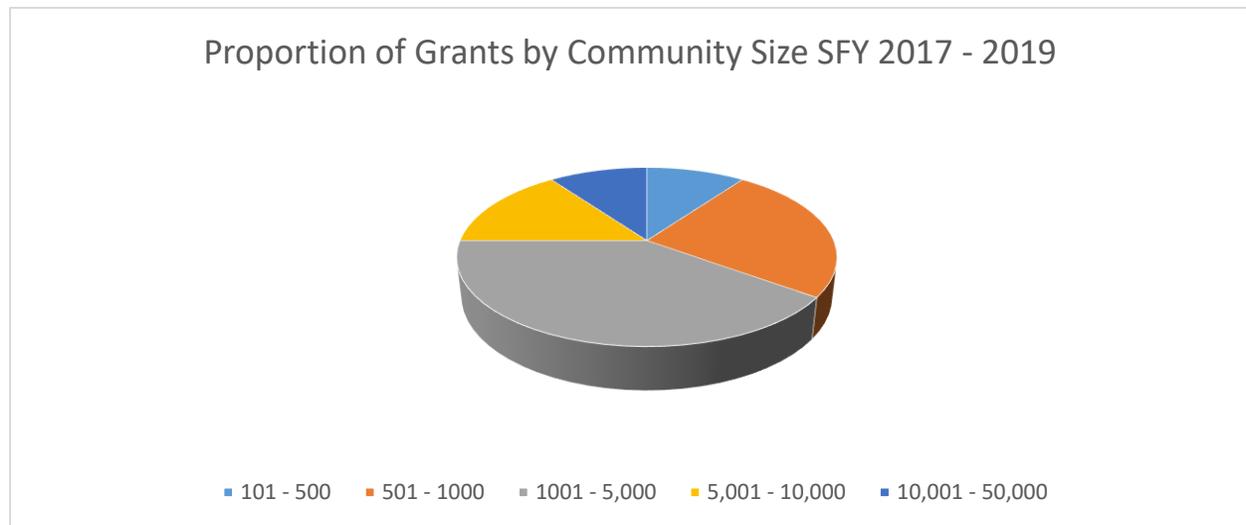
An important capacity development assessment is performed in conjunction with the Nebraska Drinking Water State Revolving Fund (DWSRF) Program, which was established pursuant to the federal Safe Drinking Water Act of 1996. Neb. Rev. Stat. § 71-5314 to 71-5327 created the Drinking Water State Revolving Fund Act. The federal Safe Drinking Water Act and state statutes established the Drinking Water State Revolving Fund Program to provide loans at reduced interest rates to finance construction of publicly and privately owned drinking water facilities. Instead of making grants to communities that pay for a portion of the building of drinking water facilities, the program provides for low interest loans to finance the entire cost of qualified projects. The program provides a flexible financing source which can be used for a variety of projects. Loans made by the program must be repaid within 20 years, except that disadvantaged communities have up to 40 years to repay their loans. All repayments, including principal and applicable interest, is used for the purposes of the program.

The DWSRF program was capitalized by EPA with a series of grants starting in 1997. States are required to provide an additional 20% of the federal capitalization grant as matching funds in order to receive a federal grant.

The program is administered by the Nebraska Department of Environmental and Energy and the Division. The Division’s primary activities with regard to the program include the prioritizing of projects for making loans and the management and coordination of the program. The Nebraska Environmental Quality Council approves the rules and regulations and the program’s Intended Use Plan.

Water systems needing funds to make capital improvements can apply for low or no cost loans. For all systems applying for DWSRF funds, an assessment is done on the system to rate the technical, managerial, and financial (TMF) capabilities. Systems with insufficient TMF capabilities are required to address their deficiencies. These deficiencies are typically financial and/or managerial aspects of financial planning. In such instances, the system must develop proper managerial/financial planning. The systems typically have technical deficiencies, as well. However, all DWSRF reviews have shown the proposed project will address needed system technical improvements.

Since the DWSRF program began in 1998, 251 loans totaling in excess of 301 million dollars have been disbursed for water system upgrades in Nebraska. Loan forgiveness funding for disadvantaged communities during this time is in excess of 34 million dollars. During the past three fiscal years, 22 commitments have been made totaling more than 20 million dollars. At least 4.5 million of that amount has been forgiven to aid disadvantaged communities. As the following chart explains, the distribution of funds went to small systems, the majority with a population of less than 5,000, during SFY 2017 through 2019.



To ensure community water systems have adequate capacity for sustainability, the Capacity Development Program utilizes its contract with Nebraska Rural Water Association to perform complete assessments of a system’s technical, managerial, and financial health through a checklist. When a loan is opened, an initial assessment is completed. If the assessment shows deficiencies, board training is offered to the system at no charge. Upon completion of projects that have received DWSRF funding, the assessment is performed again to show improvements related to the project. Each assessment is presented to the water system board to support managerial understanding related to operation of the system.

During the historic floods of 2019, the DWSRF program was instrumental in providing timely assistance to three water systems devastated by the floods. Within a few months, each of these systems were again providing water without the assistance of alternate sources. These water systems provide water to approximately 11,000 people, including a state college. The funding numbers for these three systems will be included in the 2023 Report to Governor, due to their timing within the 2020 state fiscal year.

The Drinking Water State Revolving Fund Intended Use Plan helps systems build sustainability. This is accomplished by requiring an unmetered system using DWSRF money to install water meters as part of the project. Water meters are part of the capacity development strategy, as without water meters, management and conservation of drinking water is unachievable. Meters provide a way to detect and correct water loss, set equitable water rates, and develop long-term plans to ensure a system can maintain compliance with SDWA. During SFY 2017 through 2019, three unmetered community systems obtained DWSRF funding to install water meters.

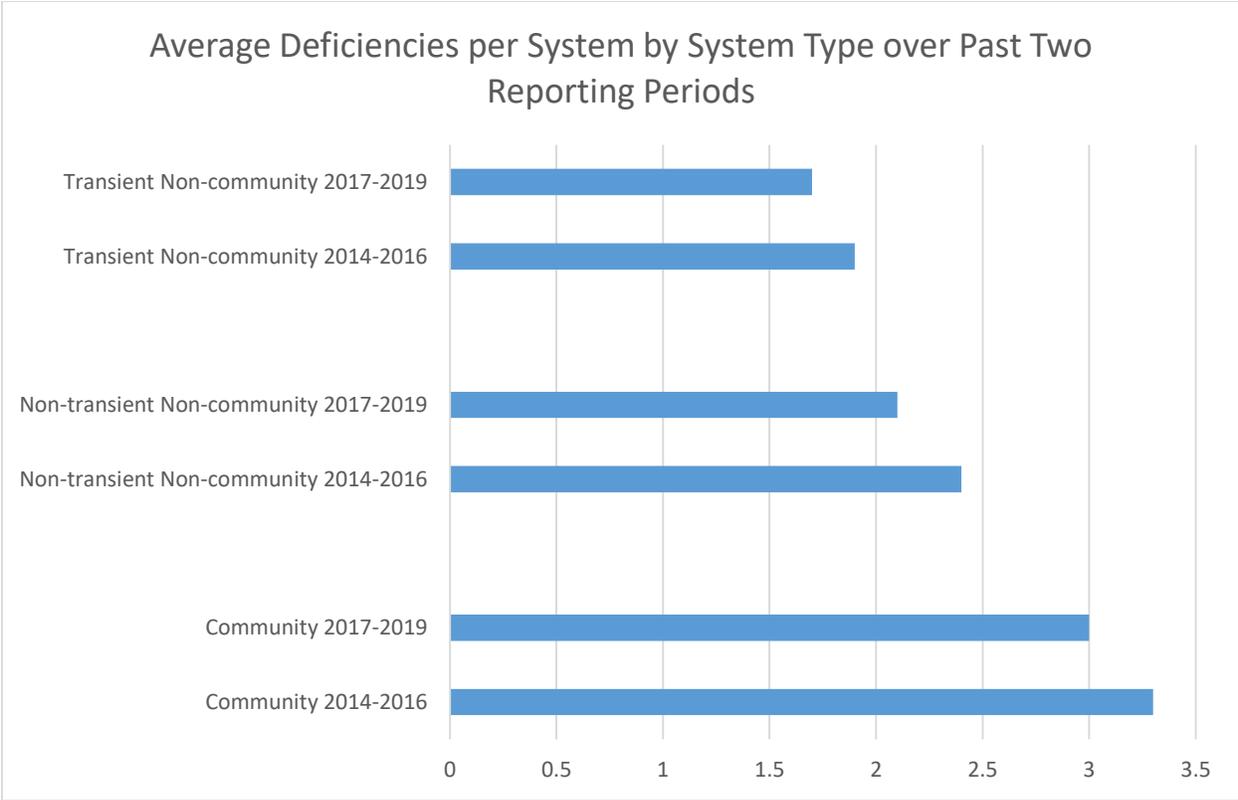
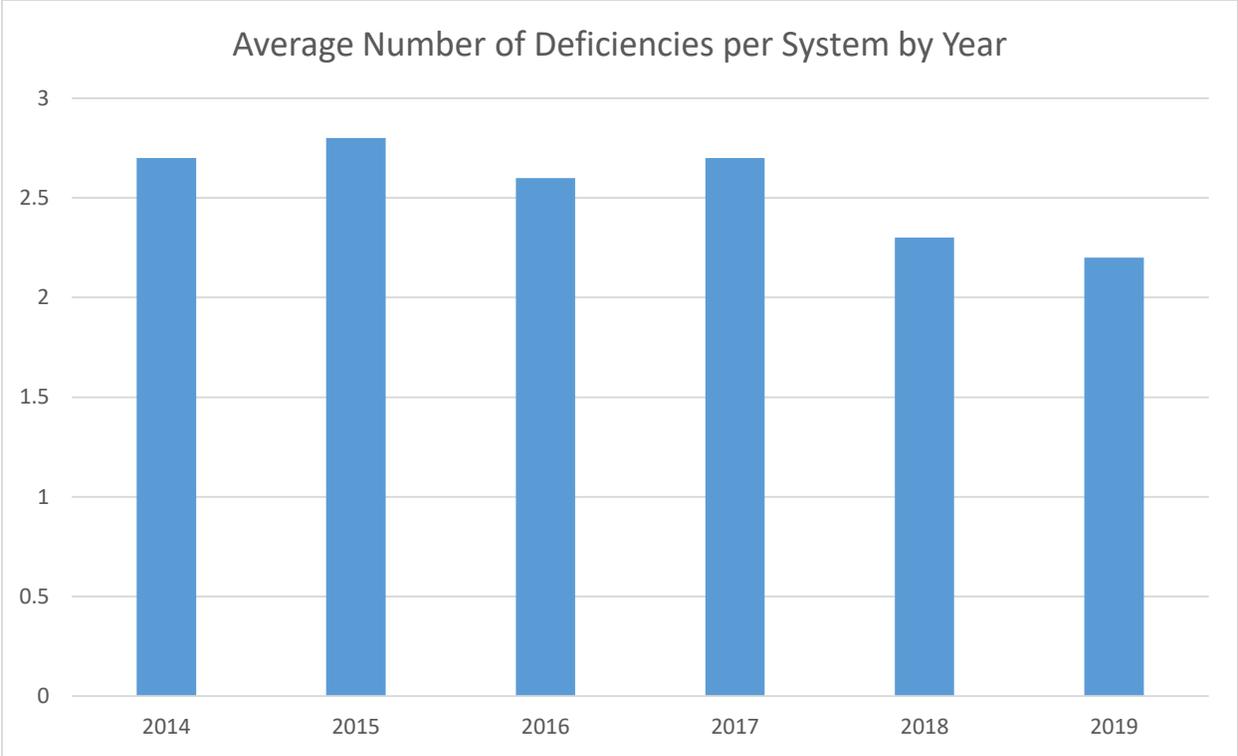
The capacity development program has a direct relationship to the capitalization grant managed by the DWSRF program. Without the capacity development program, Nebraska would lose part of its federal funding in the form of the capitalization grant. A portion of this grant provides assistance to communities for source water protection, such as land use planning, another aspect of the capacity development strategy. Over the past three fiscal years, \$400,000 in Source Water Protection Grants were distributed. These grants aided in the development of Drinking Water Protection Development Plans and Wellhead Protection Plans, locating a new water source, and an aquifer vulnerability assessment targeting nitrate susceptibility. The Nebraska Department of Environment and Energy manages the grants, and helps develop Wellhead Protection Plans, and Drinking Water Protection Area maps. As of June 30, 2019, state approved wellhead protection plans have been completed for 116 public water systems.

Another important aspect of the capacity development strategy, security grants, is also allied with the DWSRF program and federal capitalization grant. Security grants are awarded to systems with a population under 10,000 for important upgrades, such as security cameras and alarms, fencing and lighting, and backup power. Another available activity under the grant is water system mapping, which creates an asset inventory for development of an asset management program. These grants are distributed up to \$10,000, with a 10% match from the system. During the past three fiscal years, over 100 small water systems were awarded with more than \$900,000 in grants to boost sustainability.

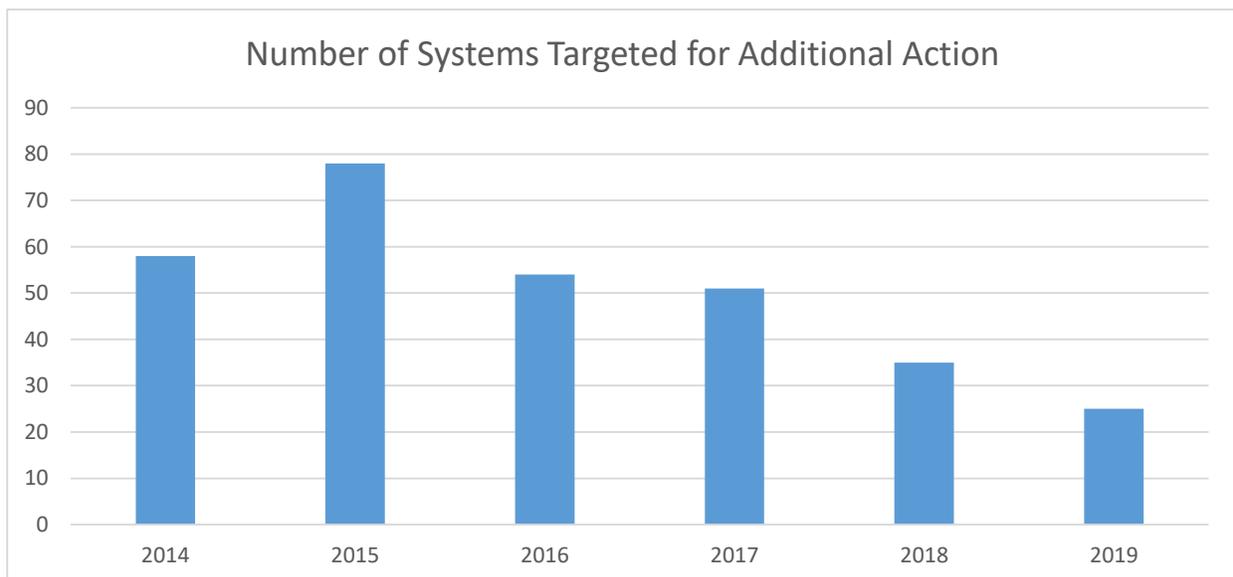
Attachment D provides information on the different set-aside program activities through DWSRF and the federal capitalization grant.

Sustainability Leads to Fewer Deficiencies

Building capacity results in fewer deficiencies found during routine sanitary surveys. Assistance offered through the Program ensures a greater understanding of the responsibilities and expectations of running a public water system, leading to a higher degree of system sustainability. On average, the past three fiscal years show 2.4 deficiencies per system, while the prior three years had an average of 2.7 deficiencies per system. Deficiencies continue to trend downward for each of the three water system types. The following graphs show the average number of deficiencies per system over the past six fiscal years (2014 – 2019).



Systems targeted for additional action due to water quality compliance issues have also shown improvement from the 2017 Report. These issues often involve exceedances of maximum contaminant levels for regulated contaminants, such as nitrates, as well as coliform bacteria violations. Systems out of compliance with the SDWA water quality regulations are issued points depending on the severity of the violation. Points are accumulated during a quarterly monitoring period, and systems with multiple outstanding violations during a given quarter are marked for additional action to bring them into compliance. If these systems are not brought into compliance, they become significantly non-compliant, which may require enforcement action. The following graph illustrates the total number of systems per year that needed additional action. In SFY 2019, 68% fewer systems were targeted for additional action than in the 2015 fiscal year. Using this improvement as a baseline, if new SDWA water quality regulations are proposed to address emerging and currently unregulated contaminants, Nebraska’s capacity development program will stay abreast of these issues to ensure Nebraska’s public water systems maintain capacity to comply with additional requirements. One such group of contaminants are per- and polyfluoroalkyl substances (PFAS). EPA is currently reviewing the prevalence and toxicity of these contaminants nationally to assess if regulation in drinking water is appropriate.



Looking Forward

Floods in 2019 and the COVID-19 pandemic have highlighted strengths and weaknesses in our ability to assist water systems. Historic flooding has prompted new procedures for efficiency in support of the water systems during emergencies. A new emphasis has been placed on helping systems develop better emergency plans and to understand their place in the local, state, and federal emergency response structure. A need of alternate strategies for giving assistance and training has become necessary during the coronavirus pandemic. Production of a redesigned website is anticipated in the near future, which will contain many new resources for public water systems as well as the residents of Nebraska. New digital tools, educational materials, and resources will be available and should be a springboard for adding more support tools, such as tutorials, enhanced communication, and self-service capabilities. In

addition to enhanced support for water systems, improved data collection and data mining for analysis is paramount to understanding the needs of those systems.

Partnerships with Midwest Assistance Program (MAP), Nebraska Rural Water Association (NeRWA), and League of Nebraska Municipalities (LoNM) continue to be essential to provide needed services, and renewal of efforts with past partnerships, such as Central Community College (CCC), may help fill gaps in training opportunities to address record keeping issues and cross connection control program adoption, which are the main drivers of sanitary survey deficiencies. Collaborations with additional organizations, such as Nebraska Water/Wastewater Agency Response Network (NEWARN), Wichita State University Environmental Finance Center, and University of Nebraska at Omaha School of Public Administration will also be necessary to support Nebraska's public water systems through mutual aid, resource development, and training. An integrated approach will provide resources to reach more systems and system personnel, offer a variety of learning/teaching methods, and foster development of strategies and knowledge within the Division. With an inclusive vision, the Program will continue to improve the capacity of Nebraska's public water systems to achieve sustainability and attain resiliency.

Success Stories

Boyd Co. Rural Water District No. 2 As a result of the March 2019 Flood Disaster, the system's transmission main beneath Niobrara River was washed away as a result of the Spencer Dam failure. The DWSRF provided a 40-year loan at 0% interest with a balloon repayment term for the first five years. In effect, the DWSRF replaced any immediate cash flow needs the RWD had while awaiting FEMA reimbursement on the project. Extending the RWD a zero interest loan, whatever local cost share they must bear will be at the lowest financial impact allowed by FEMA.

Blair, Fort Calhoun, Lakeland Estates, Metropolitan Utilities District, Washington Co RWD 1 & 2 This multi-system success involved the Blair booster station replacement, the Washington Co. RWD 1 booster station upgrade, the Fort Calhoun interconnection with the Washington Co. RWD No. 2, and RWD No. 2's tie-in supply to Lakeland Estates. The DWSRF funding provided to Blair, Fort Calhoun, Washington Co Rural Water Districts 1 & 2, and the ability of each to provide emergency supply to each other, means that M.U.D. of Omaha, which supplies RWD No. 1, ensures that under any condition all five consecutive public water systems can be supplied safe drinking water on a continuous basis. This is especially beneficial during major emergencies.

Albion Although this backup well project was started years ago, the success of the project has recently been realized. About a decade ago, the DWSRF funded a new well for Albion to replace three older wells lost due to high selenium levels. After a ten year wait period, the 2010 well remained stable, monitoring well below the selenium drinking water standard. In 2019, the DWSRF provided assistance to the City to re-establish a backup well, ensuring a safe supply of drinking water on a continuous basis.

Wood Lake The DWSRF funded a roof replacement on the water tower. The rest of the system, supply wells and mains, were replaced approximately a decade ago, and remain in good shape. However, the tower's roof developed pin hole leaks, causing non-compliance issues with water quality standards resulting in a coliform Administrative Order (AO), which required the system to fix the issue. Emergency disinfection protocols were established until the roof was replaced and the water tower repainted. After improvements were complete, emergency disinfection was discontinued, and the AO was lifted.

Glossary

Capacity: The ability to plan for, achieve, and maintain compliance with the Federal and State Safe Drinking Water Act regulations, and the ability to reliably produce and deliver water meeting all applicable drinking water standards. Capacity is measured by evaluating the technical, managerial, and financial (TMF) capabilities of the water system.

Capacity Development: The process through which water systems can improve their technical, managerial, and financial capacity to ensure compliance with current and future Safe Drinking Water Act requirements.

Community Water System: A public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Financial Capacity: Refers to the monetary resources available to a public water system to support the cost of operating, maintaining, and improving the water system. This type of capacity also refers to the demonstration of sufficient revenues, credit worthiness, and fiscal management controls.

Managerial Capacity: Refers to the expertise required of personnel who administer the overall water system operations. This type of capacity also refers to the system's demonstration of clear ownership, proper organized staffing, and effective interaction with regulators and customers.

New Water System: For the purposes of the Capacity Development Program, includes both community water systems and non-transient, non-community water systems being newly constructed, as well as systems which do not currently meet the definitions of a public water system but expand their infrastructure and grow to become a community water system or a non-transient, non-community water system.

Non-Transient, Non-Community Water System: A public water system that regularly serves at least 25 of the same persons per day more than six months in any given calendar year. Examples are schools, factories, offices, industrial parks, and major shopping centers.

Public Water System: A system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. A public water system is either a community water system or a non-community water system. Non-community water systems are classified as either a non-transient or transient water system.

Routine Sanitary Survey: Routine sanitary survey is on-site review of a public water system's water source, facilities, equipment, operation, and maintenance. Surveys point out sanitary deficiencies and assess a system's capability to supply safe drinking water. A federally mandated review, sanitary survey lowers the risk of waterborne disease and identifies systems that require technical or capacity development. Eight areas are evaluated for compliance: water sources; treatment; distribution systems; finished water storage; pumps, pump facilities and controls; monitoring, reporting and data verification; water system management and operations; and operator compliance with state requirements.

Significant Non-Compliance: A term to define a system that has violated one or more National Primary Drinking Water Act Regulations repeatedly over an extended period of more than one monitoring period.

Technical Capacity: Refers to the adequacy, operation, and maintenance of a water system's infrastructure (infrastructure includes the source water, treatment, storage, and distribution network of the water system). Also refers to the ability of qualified personnel with technical knowledge to operate and maintain the system.

Transient, Non-Community Water System: A public water system that serves at least 25 transient persons for at least 60 days in any given calendar year. Examples are restaurants, campgrounds, and hotels.

Attachment A – Title 179 NAC 2-015 Capacity Development for New Systems

015 Scope. This section applies to all new community and new non-transient, non-community public water supply systems; except for systems that were in existence prior to October 1, 1999, and do not expand their infrastructure, but expand by population only to become a public water supply.

015.01 Meet Technical, Managerial and Financial Capacity Requirements. New public water supply systems applying for a permit to operate the system after October 1, 1999, shall show, as part of their application, that the public water supply system will meet the minimum technical, managerial, and financial capacity requirements of this rule. No permit to operate the system will be issued until the requirements of this section and section 009, Permit for Operating a Public Water Supply System, are met.

015.02 Demonstration of Technical, Financial, and Managerial Capacity of Public Water Supply Systems

015.02A Minimum technical capacity requirements shall include the following:

015.02A1 Conformance to the requirements stated in section 007, Siting, Design, and Construction of Public Water Supply Systems;

015.02A2 Certified water operator(s) as required in section 010, Operator Certification;

015.02A3 A current water system map; and

015.02A4 Installation of a service meter on each service connection.

015.03 Minimum financial capacity shall include the following:

015.03A Documentation that organization and financial arrangements are in place to construct and operate the public water system in accordance with these rules. This information can be provided by submitting estimated construction, operation, and maintenance costs; and

015.03B Presentation of a proposed water rate or revenue structure sufficient to cover operating, maintenance and capital costs. A preliminary operating budget and capital budget shall be provided.

015.04 Minimum managerial capacity shall include the following:

015.04A Provision of a clear statement of legal ownership and any plans that may exist for transfer of that ownership on completion of construction or after a period of operation;

015.04B The name, address, and telephone number of the person(s), other than the water system operator(s), designated and authorized to respond to issues of the water system's compliance with these rules;

015.04C The name, address, and telephone number of the system operator(s);

015.04D A description of the staffing and chain of command shall be provided to include the name, address and telephone number of the person(s) responsible for the system's interaction with customers, regulators, and other entities such as technical assistance providers and financial assistance providers, as appropriate.

Attachment B – Nebraska Sustainability Checklist for Public Water Systems

NEBRASKA SUSTAINABILITY CHECKLIST FOR PUBLIC WATER SYSTEMS

CAPACITY ASSURANCE

SYSTEM NAME: ____ Community NTNC

DATE: ____ # Connections ____ Population ____ NE31- ____

ASSESSMENT COMPLETED BY: ____

| MANAGERIAL CAPACITY | Points | System |
|---|------------|--------|
| Asset Management Program | 10 | |
| Documented Bylaws or Water System Ordinances - (Drought, Backflow, Rates, Fees, etc.) | 5 | |
| Employee Handbook | 5 | |
| Written Job descriptions | 5 | |
| Secure and accessible water system records | 5 | |
| Source water or wellhead protection plan | 5 | |
| Regular communication with customers - (Not CCR) | 5 | |
| Managerial Subtotal | 40 | |
| FINANCIAL CAPACITY | | |
| Formal water system budget | 10 | |
| Water rate or fee structure meets expenses | 10 | |
| Annual water rate review | 10 | |
| Capital reserve fund | 10 | |
| Monthly Expense & Revenue reports to Board/Council | 10 | |
| Annual outside audit | 10 | |
| Financial Subtotal | 60 | |
| TECHNICAL CAPACITY | | |
| Adequate source water capacity | 10 | |
| Licensed Operator | 5 | |
| Operations & Maintenance Manual | 5 | |
| Up to Date Distribution Map | 5 | |
| Water Loss Accounting | 10 | |
| Water meters | 10 | |
| Technical Subtotal | 45 | |
| Capacity Subtotal | 145 | |

Attachment C – 2% Team Members

2% Team members meet with the Division a minimum of once every two months to discuss needs systems have and how to provide the necessary assistance. After capacity needs have been identified for individual systems, assistance is given to correct the problem, and knowledge is imparted to promote self-sufficiency.

Nebraska Rural Water Association (NeRWA):

The current contract (2019-2021) with NeRWA assists to:

- Determine what technical, managerial, and financial assistance is needed;
- Perform financial and managerial assessments of water systems that are applying for SRF funding, or those that are deemed to be in need of an assessment; and
- Provide board training to owners, board/council members, and other necessary personnel of community systems to emphasize the importance of technical, managerial, and financial aspects of running a sustainable water system.

Midwest Assistance Program (MAP):

The current contract (2019-2021) with MAP assists to:

- Determine what technical, managerial, and financial assistance is needed and provide such assistance;
- Explore different types of financial assistance available;
- Help systems apply for financial assistance;
- Review management and organization structure and offer alternative methods of operation and management; and
- Develop corrective action goals based on technical assessments.

Central Community College (CCC):

Past contracts have been training oriented, and provided:

- Hands-on training regarding multiple treatment techniques;
- Individual training for effective cross-connection control programs and related costs; and
- Grade VI operator (backflow) certification training.

Nebraska Section of the American Water Works Association (NSAWWA):

Past contracts provided training manuals to small water systems and mentorship development. Mentors are still available, however, no funding is available without a set-aside contract.

League of Nebraska Municipalities (LoNM):

Under a past contract, and in collaboration with the Division, five short videos were developed to explain the technical, managerial, and financial responsibilities of running a public water system. These videos are helpful to owners and board/council members and are available on the Division's webpage.

Attachment D – Drinking Water State Revolving Fund (DWSRF) Set-Aside Activities

2% Technical Assistance to Small Systems

Nebraska uses up to 2 percent of its DWSRF allotment to provide technical assistance to public water systems serving 10,000 people or less. If the state does not use the entire 2 percent for these activities, it can bank the excess balance and use it for the same activities in later years. These funds may be used to support a technical assistance team, or contract with outside organizations to provide technical assistance.

4% Administration

Nebraska may use up to 4 percent of the funds allotted for the reasonable costs of administering the program and providing technical assistance. These costs may include activities such as issuing debt; startup costs/ financial management; legal consulting fees; development of IUP (Intended Use Plan) and priority ranking system; development of affordability criteria; and costs of support services provided by other state agencies. If the state does not obligate the entire 4 percent for administrative costs in one year, it can bank the excess balance and use it for administrative costs in later years. The Department did not expend any of the administration costs from federal funds. The Administration costs were paid from loan fee revenues.

10% Public Water Supply System

Nebraska may use up to 10 percent of the allotment to:

- Administer the State Public Water Supply System program;
- Administer or provide technical assistance through source water protection programs, which include the Class V portion of the Underground Injection Control Program;
- Develop and implement a capacity development strategy; and
- Develop and implement an operator certification program.

15% Source Water Assessment Program

Identified in federal regulations as local assistance and other state programs, Nebraska may use up to 15% of the Capitalization Grant for specifics that include:

- Assistance to a public water system to acquire land or a conservation easement for source water protection purposes;
- Assistance to community water systems to implement voluntary, incentive-based source water quality protection measures;
- Provide funding to delineate and assess source water protection areas;
- Support the establishment and implementation of wellhead protection programs; and
- Provide funding to a public water system to implement technical and/or financial assistance under the capacity development strategy.

A copy of this report may be downloaded from the Division's website at
<http://deq.ne.gov/NDEQProg.nsf/OnWeb/PWS-CD>.

Copies are also available at the Nebraska Department of Environment and Energy office during normal business hours, or you may call the DEE main office number to request a copy.

Nebraska Department of Environment and Energy
1200 N St Suite 400
Lincoln, NE 68509
402.471.2186