State of Alaska
Department of Environmental Conservation

Triennial Capacity Development Report to the Governor
State Fiscal Years 2018 – 2020

September 2020

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This report satisfies a requirement of the Safe Drinking Water Act in which states must produce a report for their governor on the effectiveness of capacity develop efforts.

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Introduction

The Alaska Department of Environmental Conservation (DEC) is the State's primacy agency for implementing and enforcing the 1974 Safe Drinking Water Act (SDWA) and its associated Amendments of 1986 and 1996. As part of its primacy responsibilities, DEC is required to develop and implement a capacity development strategy that addresses the capacity of Alaska's public water systems (PWS). Capacity refers to the capabilities required of a PWS to achieve and maintain compliance with state and federal drinking water regulations. The three elements of capacity - technical, managerial, and financial – are typically referred to as "TMF" and are defined as:

- *Technical capacity* refers to the ability of the water system to meet standards of engineering and structural integrity necessary to serve customer needs. Additionally, technical capacity includes the operator's aptitude for obtaining proper certification and applying the necessary knowledge and skills to safely operate the system. Technically capable water systems are constructed, operated, and maintained according to accepted standards.
- *Managerial capacity* refers to the ability of the management structure to effectively maintain operation of the water system, including ownership accountability, staffing and organization, and effective external linkages.
- *Financial capacity* refers to the ability of the water system to raise and properly manage the money needed to operate effectively over the long term.

Funding for the Alaska Capacity Development Program is provided through the 15% Local Assistance and Other State Programs set-aside portion of the federal Drinking Water State Revolving Fund (DWSRF) annual capitalization grant.

Every three years, as required by the 1996 Amendments to the SDWA, DEC submits a report to the Governor outlining the progress and accomplishments of the State's capacity development program and makes this report available to the public. This reports covers activities completed the past three state fiscal years 2018 – 2020 (July 1, 2017 – June 30, 2020).

Alaska Capacity Development Program

In 1999 and 2000, a Citizen Advisory Board (CAB) was convened to advise DEC on challenges and opportunities to improving the TMF capabilities of Alaska's public water systems. A Report of Findings (2000) presented the results of these meetings and summarized 14 recommendations to improve and support TMF capabilities. The DEC Drinking Water (DW) Program finalized the State Capacity Development Strategy (Strategy) in 2000, based on the Report of Findings, public input, state and federal requirements, and departmental resources.

In 2009, a steering committee composed of public representatives, private consultants, and agency representatives was convened to provide an opportunity for ongoing feedback on

capacity development implementation opportunities and challenges. In 2013, the Strategy was revised to include updated information and improve clarity, while maintaining the original strategic goals.

Since it was originally authorized, the Capacity Development Program had been administered by the DEC DW Program, within the Division of Environmental Health. In 2017, the Technical Assistance and Financing (TAF) Program was created within the DEC Division of Water to bring together various capacity building programs including the State Revolving Fund, Remote Maintenance Worker , and Operator Certification Programs. The Capacity Development Program was incorporated into TAF at that time as part of the newly formed Capacity Development and Operator Certification Program (CDOC). Two full time positions, the Capacity Development Coordinator and the Financial Capacity Analyst, were created to implement capacity building efforts statewide.

During this reporting period, an interim Strategy was submitted to EPA Region 10 for comment and review. This interim update focused on providing an accurate depiction of current strategic efforts targeting capacity improvement. A comprehensive update effort, including stakeholder engagement opportunities, will begin in State Fiscal Year 2021 (SFY21).

Efficacy of the Strategy

The primary objective of Alaska's Capacity Development Strategy is to assist public water systems in acquiring and maintaining TMF capacity. The implementation of this capacity development objective is detailed below, with an emphasis on achievements from the last three state fiscal years.

Public Outreach

Conferences

During the reporting period, CDOC staff made presentations at several conferences to provide current industry information and continuing education opportunities to water system owners, operators, consulting engineers and other drinking water industry professionals.

SFY	Month	Conference	Location	Topic
18	October	Alaska Water Wastewater Management Association (AWWMA) Southeast Alaska Conference	Juneau	Operator Certification Program Updates
		Alaska Rural Water Association (ARWA) Statewide Conference	Anchorage	Operator Certification Program Updates
	May	AWWMA Statewide Conference	Anchorage	Online Operator Profiles and Exam Preparation
19	October	AWWMA Southeast Alaska Conference	Juneau	Operator Certification and Capacity Development Updates
		ARWA Statewide Conference	Anchorage	Importance of Certification, Exam/Certification Process, and Preparing for Certification Exams
	May	AWWMA Statewide Conference	Anchorage	Classifying Water Systems
20	October	AWWMA Southeast Alaska Conference	Juneau	Operator Certification Program Updates
		ARWA Statewide Conference	Anchorage	Operator Certification Program Updates

Pathways to Employment for Youth

CDOC engaged the Juneau School District's Career and Technical Education Coordinator on an initiative to introduce high school students to potential careers in the water and wastewater industries. Progress on this outreach was delayed due to the COVID-19 pandemic, but will continue in SFY21.

Rural Community Calendars

To support rural communities and utilities, CDOC, in coordination with the RMW Program, created a 2020 Monthly Calendar as a resource for operator and administrative staff. The calendar contains reminders for important deadlines each month, such as water sampling, preventative maintenance activities and reporting, tax payment and reporting, etc. Calendars were also shared with staff at partnering agencies and technical assistance providers that offer support to rural community utilities. Staff received overwhelmingly positive feedback from recipients and anticipate an improvement in sampling compliance based on their use.

Operator Training Courses

Water systems are required to be operated by a certified operator at a level determined by the complexity of the system. Alaska contracts with the Association of Boards of Certification (ABC) to provide psychometrically validated certification exams for water operators. During the reporting period, ABC updated these exams and the State of Alaska started using this newest version on June 1, 2020.

In order to assist operators statewide better prepare for their jobs and for the new certification exams, CDOC contracted and oversaw the development of introductory and intermediate water treatment and distribution courses.

Materials were developed and distributed for conducting 4-day trainings for water treatment operators, including PowerPoint presentations and associated required media, instructions for interactive learning tasks, lists of suggested exhibits for hands-on learning, and tools for assessing operator knowledge before, during, and after a course. CDOC organized a “Train the Trainer” session to review the course, with 32 trainers in attendance representing various state, federal, and private organizations.

Introductory and intermediate level water distribution training materials are in development and will be completed during SFY21 for trainer and operator utilization.

Water System Excellence Award Program

In an effort to express appreciation and recognition for the systems, and operators, that have achieved compliance with DEC regulations, CDOC initiated an annual utility recognition program. This program aims to increase the visibility of systems and operators who have demonstrated their commitment to providing safe drinking water, as community appreciation is essential to maintaining TMF capacity. By increasing visibility, CDOC hopes that the positive recognition will contribute to employee retention and community support, and encourage improvements in systems that are not currently recognized.

The Water System Excellence award is comprised of two tiers: Ursa Major and Ursa Minor. A water treatment system or water distribution system will be awarded Ursa Major if it has

maintained four quarters of Operator Certification compliance and has no open, unresolved, or incurred Drinking Water violations during a calendar year. Ursa Minor is awarded to a system that has maintained four quarters of Operator Certification compliance and has no more than one open, unresolved or incurred Drinking Water violation during a calendar year, or three quarters of Operator Certification compliance and no open, unresolved or incurred Drinking Water violations during a calendar year.

The program was initiated for calendar year 2018 and first time awardees were unveiled at the Alaska Water Wastewater Management Association annual statewide conference, on the DEC website, and via letter.

After positive feedback, CDOC continued to develop the recognition program with the design of award certificates for the 2019 Ursa Major and Ursa Minor Water System Excellence systems. Example of each award are provided in Appendix A.

System-Specific Training and Certification (S^2TC) Program

Many operators of rural water systems struggle to successfully complete conventional certification exams. Challenges include, but are not limited to, lack of high school level education, English as a second language, and exams that cover material that is not pertinent to rural Alaskan operators. In an effort to address these challenges while still meeting the need for operators to demonstrate their qualification to safely provide drinking water to their communities, CDOC initiated an alternative method for offering certification exams.

The S^2TC Program involves the creation of 13 training "modules" for different treatment and distribution components of a PWS. Once completed, these modules will serve as the basis for an alternative approach to certification exams that will only be offered to operators who have demonstrated that they are capable of effectively operating and maintaining a utility but have repeatedly failed certification exams.

Operators who are determined to be eligible for the S^2TC Program will be required to prepare and submit a facility description to determine which modules will be administered. Each module is intended to educate and test an operator on information that is specific to the technology used in his/her utility. In these limited cases, successful completion of the S^2TC Program will replace the requirement of passing the standard certification exam and certification will be specific to that system. The training modules will also be made available as study materials for all operators.

CDOC, in collaboration with the RMW Program, has identified six communities, and has worked to finalize four modules, in preparation for S^2TC Program beta testing. These communities all have long standing operators who have not passed certification exams despite repeated attempts. Work on this project is ongoing and will continue in SFY21.

Coordination

Regional Coordination Meetings

CDOC coordinates annual regional meetings that bring together representatives of all regulatory programs and technical assistance providers that work to support rural communities in addressing their sanitation needs. Participants include the RMW, Village Safe Water, Drinking Water, Wastewater, Solid Waste and Rural Utility Business Advisor program staff, along with staff from Alaska Native Tribal Health Consortium (ANTHC) and environmental health programs at regional health corporations.

At these meetings, participants review and evaluate the current capacity status of all rural communities within a region in an effort to ensure that all community needs are identified and a plan is developed to address them. The goal of these meetings is to coordinate effective and consistent communication between the agencies providing assistance to rural communities for their sanitation infrastructure needs, to capture community needs for funding purposes, and to establish interagency collaboration on technical assistance efforts to communities.

Alaska Public Health Association (ALPHA) Summit Workshop

The 10th Annual Water and Sanitation Innovations for the Arctic Workshop, cosponsored by the U.S. Arctic Research Commission, Centers for Disease Control and Prevention, and DEC, was held in January 2020 to discuss prioritizing water and sanitation capacity needs.

This workshop reviewed historic, current, and future capacity development activities, and aimed to identify program gaps and needs. Four breakout sessions focused on asset management, technical capacity, managerial capacity, and financial capacity.

Capacity Development Progress

Operations and Maintenance Best Practices Score

The Operations and Maintenance Best Practices (Best Practices) is a tool used to assess the capacity of rural water utilities. Rural utilities are scored biannually on technical, managerial, and financial categories comprising nine criteria. The scoring criteria is included in Appendix B.

Best Practices scores are used to determine eligibility and priority of sanitation projects proposed for funding across a variety of funding sources Scores are also used by agencies and technical assistance providers to identify and prioritize systems that require support.

During the reporting period, the Best Practices score generally trended upwards (Figure 1). Communities are encouraged to actively work with technical assistance providers and agency staff to improve system capacity, and by extension, their Best Practices score. A number of resources, such as an Operations and Maintenance Best Practices Scoring Guide, sample

preventative maintenance plans and financial reports, operator trainings, management and financial trainings, and assistance with QuickBooks and taxes are offered by the state to assist communities with the capacity building efforts. The ongoing work and outreach with community leaders regarding Best Practices scoring, tools for communities, and access to funding sources incentivizes rural communities to acquire and maintain TMF capacity.

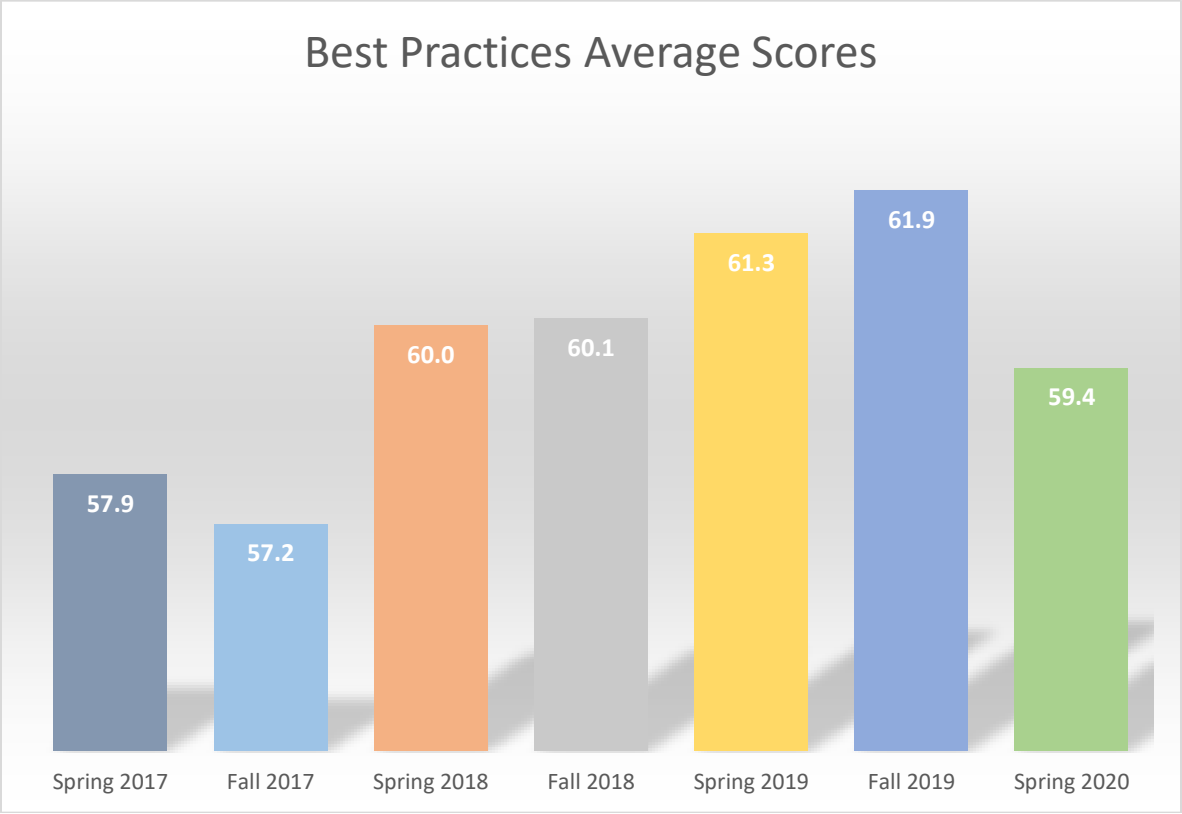

Figure 1. Best Practices Average Scores, Spring 2017 – Spring 2020

Operator Certification Compliance

Statewide, operator certification compliance data is a strong indicator of systems in need. The CDOC Program maintains a quarterly schedule of analyzing and ranking the operator certification compliance status of systems; systems that rank the highest (based on factors such as system type, population served, source water, and system classification) are targeted for capacity assistance. This data may be used as a baseline for measuring statewide improvements in technical capacity.

Compliance improved between SFY18 and SFY19, but decreased in SFY20 (Figure 2). SFY20 compliance was likely influenced by the lack of available training and testing from March to June due to COVID-19.

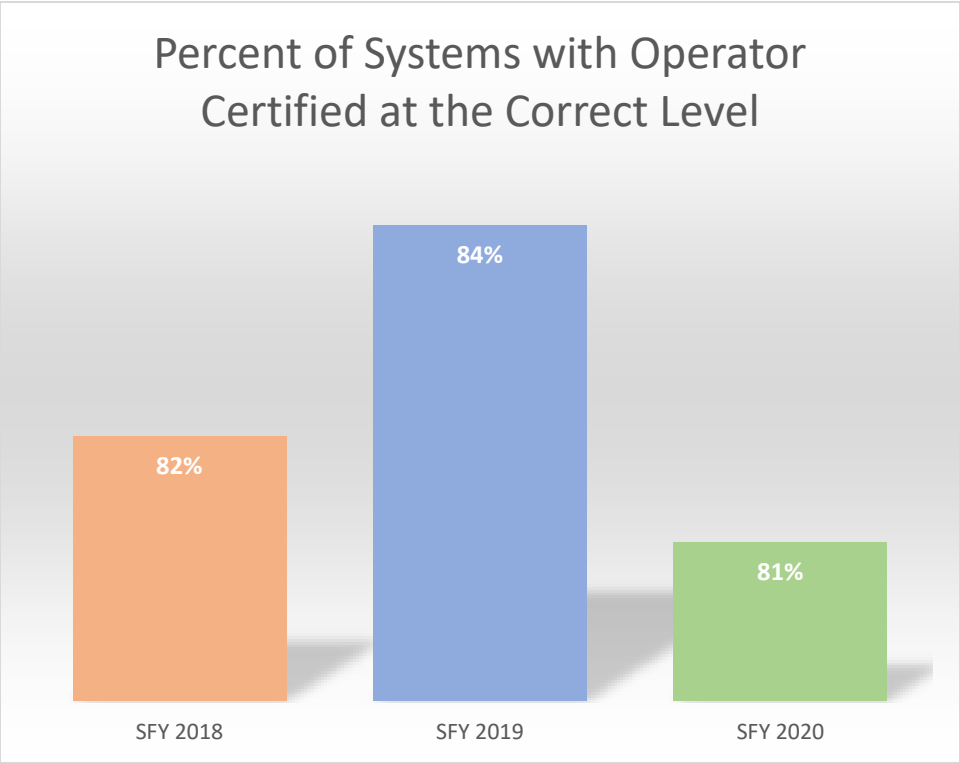

Figure 2. Certified Operator Compliance

Asset Management Plans

Asset management provides utility managers and decision-makers with critical information on capital assets and timing of investments. Some key steps for asset management are making an inventory of critical assets, evaluating their condition and performance, and developing plans to maintain, repair, and replace assets and to fund these activities.

The 2018 America's Infrastructure Act (AWIA), Section 2012, requires states to update their Capacity Development Strategies to incorporate consideration for asset management. CDOC intends to work with EPA Region 10 for a thorough review prior to any comprehensive strategy implementation and submit the revised Strategy for approval by the December 31, 2021 deadline.

At this time Alaska's Capacity Development Strategy does not include asset management.

Additional Efforts in Capacity Development

State Revolving Fund (SRF) Program

The SRF Program, within the DEC Division of Water, offers low interest loans from the Drinking Water State Revolving Fund (DWSRF) to eligible PWS owners for infrastructure improvements. These loans assist PWS owners with financing the infrastructure upgrades needed to protect public health and achieve and maintain compliance with SDWA requirements. The most common users of the DWSRF loans have historically included municipally owned water systems serving mid to large size communities, as well as a small number of privately held water systems. Additionally, the SRF Program continues to implement a new, heavily subsidized, micro loan program aimed specifically at municipally owned utilities in small rural communities.

In addition to the direct support for technical capacity provided by infrastructure upgrades, SRF loans also provide incentives for PWSs to acquire and/or maintain TMF capacity. To receive loan fund assistance, a utility must demonstrate sufficient TMF capacity to operate the system in compliance with state and federal regulations; or, if a utility is not in compliance, an assessment is made to determine if the proposed project will bring the system into compliance, thus assisting the system in acquiring a greater level capacity. Utilities must also meet a minimum Best Practices score for loan eligibility. Additionally, the utility's Best Practices score is used to determine the level of subsidy offered for the loan; the higher the score, the greater the subsidy.

Remote Maintenance Worker (RMW) Program

The RMW Program assists with building and maintaining technical capacity by providing a number of services to operators in nearly 200 rural Alaskan communities. The RMW Program provides capacity assistance through on-site, on-the-job training in the proper operation and maintenance of water systems and compliance with state and federal regulations.

RMWs offer targeted, system specific assistance to operators, allowing them to improve the sampling, troubleshooting, maintenance, and mechanical repair skills needed to adequately run a community's utility. RMWs work with operators to develop and revise operations and maintenance (O&M) and preventive maintenance plans, to train them in accurate record keeping, and to prepare a variety of reports that are presented to the governing body concerning the status of the utility.

Further capacity building efforts include informing local government officials of RMW findings and recommendations concerning operation and maintenance requirements and costs, plant O&M issues, and operator training needs.

In addition to one-on-one and local response, RMWs facilitate regional training workshops for operators in their region and provide classroom instruction to prepare operators for State certification exams.

Village Safe Water (VSW) Program

The VSW Program, within the DEC Division of Water, works with rural communities to develop sustainable sanitation facilities. VSW provides TMF capacity assistance by funding grants to small communities for planning and construction projects; grant administration to ensure appropriate and effective use of grant funds; and construction project oversight, monitoring and control.

Drinking Water (DW) Program

The DW Program is responsible for enforcing federal health-based standards established by the SDWA. The DW Program utilizes the EPA's quarterly Enhance Targeting Tool (ETT) to focus attention on those PWSs that, based on the severity and frequency of their violations, are defined as significantly out of compliance with the SDWA requirements. ETT scores are used as indicators of capacity and allow the DW Program to prioritize compliance assistance and enforcement for PWSs statewide. Currently, the DW Program and other technical assistance providers work with communities who receive an ETT score of 11 or higher to determine what steps are needed to bring a system back into compliance.

The DW Program also conducts sanitary surveys inspections, which help PWSs strengthen operational and managerial processes, as well as infrastructure. Through these on-site inspections, sanitary surveys identify deficiencies or obstacles that prevent systems from doing their best to provide safe drinking water to their customers; provide operator education, technical assistance and training; increase communication between the PWS staff and the DW Program; and identify and correct deficiencies, thereby reducing risks to public health.

Additionally, the Drinking Water Source Protection (DWSP) group delineates source water protection areas for all PWS sources and furthers awareness of these protection areas through outreach efforts. DWSP also encourages active protection efforts by promoting the development and implementation of DWSP plans by PWS and communities. The DWSP group provides passive protection efforts through review of proposed permitted activities near PWS sources and by ensuring SRF loans prioritize water quality improvement projects near PWS sources.

Rural Utility Business Advisor (RUBA) Program

The RUBA Program within the Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs, assists rural water utility providers with their financial and managerial capacity. RUBA staff worked alongside community members to identify strengths and weaknesses in their utility management and to develop plans to improve operations.

RUBA provides training courses in different regions across Alaska on a cost reimbursable basis. The 32-hour classes offered are: Introduction to Utility Management, Personnel Management, Financial Management, Organizational Management, Planning Management, Operations Management, Elected Officials, and Utility Clerk. These courses provide utility staff with the principles and practices necessary to manage small water and wastewater facilities in rural Alaska.

Additionally, RUBA staff play a key role in Best Practices implementation and scoring. Staff collect and review the documentation required for scoring and actively work with communities to improve scores upon request.

Report Availability

This report will be made available to the public on DEC's Capacity Development webpage: https://dec.alaska.gov/water/technical-assistance-and-financing/capacity-development/

To request a hard copy, the public may contact:

Capacity Development and Operator Certification Program
Department of Environmental Conservation
P.O. Box 111800
Juneau, Alaska 99811
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Appendix A: Water System Excellence Awards

Ursa Major Award

Ursa Minor Award

Ursa Minor

Water System Excellence Award

The Department of Environmental Conservation recognizes

Skagway

for achieving and maintaining compliance with the
Operator Certification Program
&
Drinking Water Program
in
2019

Cindy Christian
Drinking Water Program Manager

Martin Suzuki
Operator Certification Program Manager

Appendix B: Best Practices Scoring Criteria

Best Practices Scoring Criteria

Category		Best Practice	Points	Contacts	Additional Information
Technical	*Operator Certification*	Utility has more than one operator certified to the level of the water system	10	Operator Certification Program	Regulations require that the primary operator of a water system be certified at level equal to the classification of a system. The classification of each water system can be found online at https://dec.alaska.gov/Applications/Water/OpCert/. For scoring purposes, the certification requirements considered will be for Water Treatment unless a system only requires a Water Distribution operator, in which case only Water Distribution certifications will be considered. Operators of Small Treated and Small Untreated systems who hold a Water Treatment certification at any level are considered to be certified to the level of the system. Wastewater Collection and Wastewater Treatment certifications will be considered if a community has a wastewater system but no water system. Systems that do not require a certified operator will receive full points.
		Primary operator is certified to the level of the water system and the backup operator holds some level of certification in water treatment or distribution	7		
		Primary operator is certified to the level of the water system and the backup operator holds no certification or there is no backup operator	5		
		Utility has one or more operators certified at some level in water treatment or distribution	3		
		Utility has no certified operators	0		
	Preventive Maintenance Plan	Utility has a written PM plan; PM is performed on schedule; records of completion are submitted on a quarterly basis and have been verified	25	Remote Maintenance Workers (RMWs)	A Preventive Maintenance Plan is a schedule of maintenance activities necessary for continued operation of the utility. At a minimum, the plan must include those activities required to prevent a loss of service. RMWs are available to assist in developing a PM Plans and training operators in proper maintenance. Utilities seeking 25 points must submit completed PM records to their assigned RMW on a quarterly basis. PM criteria apply to wastewater utilities if there is no public water system. Communities without a public water or wastewater system will receive full points.
		Utility has a written PM plan; performance of PM and record keeping are not consistent	15		
		Utility has no PM plan or performs no PM	0		
	Compliance	Utility had no Monitoring and Reporting violations during the past year	10	Drinking Water Program	Public water systems are required to collect water samples to demonstrate that the water meets drinking water quality standards and is safe for consumers. The Drinking Water Program provides each utility with an annual Monitoring Schedule each year. Sampling is a primary responsibility of the operator and sufficient funds for monitoring must be included in the budget. Communities without a public water system will receive full points.
		Utility had up to five Monitoring and Reporting violation during the past year	5		
		Utility had more than five Monitoring and Reporting violation during the last year	0		
		Total Technical Points	**45**		
Managerial	*Utility Management Training*	A person who holds a position of responsibility for management of the utility has completed a DCRA approved Utility Management course or other utility management training course within the last five years	5	RUBA	This person is not required to have the Utility Manager title, but must have some responsibilities pertaining to the management of the utility. This person must reside within the community and represent the utility, even in instances when the utility is managed by a third party.
	Meetings of the Governing Body	The utility owner's governing body meets routinely consistent with the local ordinance/bylaw requirements and receives a current report from the operator	5	Rural Utility Business Advisor (RUBA)	Meetings must be held as prescribed by ordinance or by rules and regulations of the governing body, with reasonable exceptions made for unforeseeable circumstances. A written or oral report from the operator or contracted utility manager must be recorded in the meeting minutes.
		The utility owner's governing body meets routinely consistent with the local ordinance/bylaw requirements	2		
		The utility owner's governing body does not meet	0		
		Total Managerial Points	**10**		
Financial	*Budget*	Utility owner and the Utility have each adopted a realistic budget and budget amendments are adopted as needed; Accurate monthly budget reports are prepared and submitted to the governing body	15	RUBA	If the utility is managed or operated by a third party, the utility owner and the contractor must demonstrate appropriate budgeting and financial reporting practices. The utility owner must demonstrate appropriate budgeting for any utility subsidies and for the contracted services. The contracted manager must also demonstrate a realistic budget for the utility. When the utility is managed by a third party, monthly financial reports must be submitted to, and reflected in the meeting minutes of, the utility owner's governing body. Utilities not under contracted management must have a distinct budget for the utility operations in order to achieve the maximum score.
		Either the Utility or the Utility owner has adopted and implemented a budget, the other has not	13		
		Either the Utility or the Utility owner has adopted a budget, but it is not being implemented	10		
		Utility owner and the Utility have not adopted a budget	0		
	Revenue	Utility is collecting revenue sufficient to cover the Utility's operating expenses and to contribute to a repair and replacement account	20	RUBA	To receive full points, the reports must show that sufficient revenues - whether from user fees, explicitly identified subsidies, or a combination of both- are being collected to meet all the utility's associated expenses, and that the utility is budgeting for repair and replacement expenses and/or already has sufficient funds saved to cover foreseeable repair and replacement costs. 'Collection policy' means a set of procedures designed to ensure bills are paid on time and in full, and to collect on past-due payments. Sending customers a bill/statement each month showing the amount owed is not a collection policy. The collection policy must include a statement of action that will be taken if past-due amounts are not received.
		Utility is collecting revenue sufficient to cover expenses	15		
		Utility has a fee schedule and a collection policy that is followed	5		
		Utility has no fee structure or collection policy	0		
	Worker's Compensation Insurance	Utility has had a workers' compensation policy for all employees for the past two years and has a current policy in place	5	RUBA	All employees of the entity which owns the utility must be covered by workers' compensation insurance. In addition, all employees of a third party managing the utility must be covered, if applicable.
		Utility has a current workers' compensation policy in place for all employees	2		
		Utility has no workers' compensation policy	0		
	Payroll Liability Compliance	Utility has no past due tax liabilities and is current with all tax obligations	5	RUBA	This criteria applies to the utility owner, as well as to a third party managing the utility, if applicable. Taxes considered include both Federal and State taxes. A utility representative must sign an IRS tax authorization form for this information to be verified for scoring purposes.
		Utility owes back taxes, but has a signed payment agreement, is current on that agreement, and is up-to-date with all other tax obligations	2		
		Utility is not current with its tax obligations and/or does not have a signed repayment agreement for back taxes owed	0		
		Total Financial Points	**45**		
		Total Points Possible	**100**		