



Building the Tribal Water Workforce of the Future: Key Findings from the 2019 Tribal Workforce Workgroup

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Executive Summary

In 2019 the Federal Infrastructure Task Force to Improve Access to Safe Drinking Water and Basic Sanitation to Tribal Communities established the Tribal Workforce Workgroup (workgroup) to identify and assess the challenges of hiring and retaining a qualified workforce specific to tribal water utilities. The workgroup is also included as an activity in America's Water Sector Workforce Initiative, released in October 2020 . The workgroup included tribal utility personnel, tribal consortia representatives, technical assistance providers, and federal agency representatives. The workgroup discussed challenges and shared strategies for success to help tribes maintain qualified utility managers and operators to meet the needs of their utilities and communities. These challenges and best practices are grouped into three categories, Recruitment, Training, and Retention. Challenges and strategies are summarized as follows:

Recruitment Challenges: Find and hire qualified staff, including staff with appropriate certification levels.

- **Strategies to Improve Recruitment:**
 - o Enhance public perception of the utility and its workers through community outreach and engagement.
 - o Carry out early recruitment in schools to develop the necessary skillsets locally.
 - o Highlight career potential for new recruits interested in joining the field.
 - o Improve job descriptions for water utility workers.

Training Challenges: Ongoing professional development to enhance the skills of tribal staff for advancement within the utility.

- **Strategies to Improve Training:**
 - o Meet the training needs of water professionals support certification and expertise.
 - o Support operator certification through incentives.
 - o Tailor certification training for tribal utilities.
 - o Encourage professional development and career advancement through management training.

Retention Challenges: Ensure existing staff with valuable training and experience are motivated to stay in the utility.

- **Strategies to Retain Qualified Personnel:**
 - o Provide competitive compensation.
 - o Recruit management staff from within.
 - o Create a plan for advancement.
 - o Foster mentorship relationships for newer staff.
 - o Create and maintain employee recognition programs.

¹ <https://www.epa.gov/tribal/federal-infrastructure-task-force-improve-access-safe-drinking-water-and-basic-sanitation>

² <https://www.epa.gov/sustainable-water-infrastructure/americas-water-sector-workforce-initiative>

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1. Introduction

The managers, operators, and staff that run and supervise tribal water and wastewater utilities are critical to the long-term health, safety, and success of tribal communities. Safe, reliable drinking water and clean, treated wastewater are essential to maintaining public health and safety. Skilled operators serve as stewards to their systems and protect the investment in community infrastructure. The consequential responsibilities of tribal utility operators make these workers vital to provision of essential services. Maintaining a fully staffed, qualified workforce to fill these important roles can be difficult, and tribal utilities may face unique challenges in hiring, training, and retaining qualified personnel.

2. Challenges Faced by Tribal Water Utilities

Many tribal water systems support small populations in remote rural communities. These communities may face difficulties maintaining a full workforce due to a variety of factors, many of which are not unique to tribal communities. For example, rural tribal communities frequently face increased challenges to economic and educational development compared to urban communities, which may reduce rural tribal communities' ability to attract and retain qualified employees. Training rural tribal utility employees can often require longer travel distances for trainees or increased expense for hiring on-site trainers.

Utility governance is often a challenge for tribal utilities. Tribal governments vary and tribal utilities may struggle with defining how and where they fit within the tribal governmental structure. This includes challenges with establishing governance of the utility itself, as well as establishing authorities for the protection and enforcement of utility interests. This can be reflected in how the utility's budget and finances are governed.

The primary challenges for tribal water workforce development can be grouped into three categories, each of which will be covered in more detail. The three categories are:

- **Recruitment:** Finding and hiring qualified staff, including staff with appropriate certification levels;
- **Training:** Ongoing professional development to enhance the skills of tribal staff for advancement within the utility; and
- **Retention:** Ensuring existing staff with valuable training and experience are motivated to stay in the utility.

2.1 Recruitment Challenges

Tribal utilities face recruitment challenges in both attracting new talent and appealing to tribal members to become certified operators. Operators need specialized skills and training to serve the needs of the utility and need to acquire and maintain certifications. Many communities do not have local programs to prepare community members with the type of technical skills needed by operators. Lack of awareness amongst tribal communities regarding utility services can also hinder local recruitment. Recruiting challenges are not limited to operators; hiring experienced and skilled managers from the broader community can also be difficult. Tribal utilities may not be able to compete with the compensation packages offered by larger utilities, and it may be harder to attract workers to the remote locations of many tribal systems.

2.2 Training Challenges

Once hired, operators need to complete courses and pass exams in order to acquire and maintain certification to operate treatment, distribution, and collection systems at drinking water or wastewater utilities. These exams may not be tailored to the requirements of tribal systems, which are often small and rural. Training may not reflect the real-life scenarios that small-system operators face and may instead focus more on technical challenges faced by larger utilities. Some trainers and training programs focus on preparing operators for state operator certification exams which may include material that is not applicable to tribal systems, such as additional state regulatory requirements.

In many cases, the education requirement for operator certification is a high school diploma or general education diploma (GED). Math requirements for operator certification may differ from high school curricula and can be challenging for some operators in training. Non-tribal and tribal utility operator certification requirements differ in each state or tribal nation, making it challenging to recruit experienced operators from other areas with an outside certification. Just as system type and complexity may vary within or across states, there is wide variability in the type and complexity of water systems in different tribal communities making it difficult to develop a “one size fits all” operator certification or training program. In addition, some tribal operators may operate in more than one system, and systems may be located in lands with different jurisdictional circumstances and regulatory requirements.

2.3 Retention Challenges

The typical size and rural setting of tribal communities is often a challenge in attracting and retaining skilled workers. According to the latest publicly available data (October 2021), 98% of American Indian community drinking water systems serve fewer than 10,001 people, and 89% serve fewer than 3,301 people. Due to the larger base of ratepayers, larger utilities may have more financial resources available to offer higher wages than small and tribal utilities. Competition regarding compensation affects both attracting new employees and retaining experienced employees.

Tribal utilities often service rural communities that may lack amenities, such as broadband communication systems, that are present in more urban areas, which can create challenges for attracting and retaining employees. These communities may also be geographically isolated from urban centers, and workers from outside the community may not be aware of the rewarding opportunities that may be available.

³ These figures do not include Alaskan Native water systems.

3. Strategies for Success

Tribal utilities across the country have identified and implemented workable solutions to recruit and build a long-term, qualified drinking water and wastewater workforce. Successful utilities have found that:

- Engagement between utility management and administration is vital to resolving many of the challenges of recruiting, training, and retaining qualified employees.
- A successful workforce depends upon administrators in both the utility and tribal government appreciating the vital role water and wastewater utility staff play in the community and in serving the utility's mission.
- Proactive engagement with administrative authorities on current and future needs can help ensure future problems are addressed ahead of time.

Examples of the solutions and strategies identified by the Tribal Workforce Workgroup are discussed below. While many of the examples are from specific tribes and utilities, other tribes may be able to adopt these same strategies to overcome their own water workforce challenges. The strategies and examples are grouped into the same three categories as the challenges - recruitment, training, and retention – but many can address more than one type of challenge.

3.1 Strategies to Improve Recruitment

Enhance public perception of the utility and its workers through community outreach and engagement

A positive public image of the utility in the community is a cornerstone for recruiting and retaining operators in the long term. Community members will be more interested in working for a reputable utility that is perceived as performing a valuable service. The utility can enhance their public image through improved outward communication about utility functions, such as updates on work progress at community meetings or preemptive notifications regarding work schedules. Social media can be a powerful tool for remaining visible and engaged within a community. Additionally, the utility can increase its involvement in non-function-related ways, such as interaction at community events or offering facility tours. The goal of active engagement is to have utility operators and staff recognized by the community for their positive contributions.

The Inter-Tribal Council of Arizona (ITCA) is developing a series of public service announcement (PSA) publications to elevate awareness of the roles of utilities, utility operators, and associated career paths. These PSAs will be published in local newspapers with contact information for the local utility. Once completed, the PSAs will be made available on the ITCA website for use by tribal utilities, and other interested stakeholders.

Carry out early recruitment in schools to develop the necessary skillsets locally

Partnering with local schools provides a long-term strategy to improve community perception of the utility, increase interest in utility careers, and provide hands-on science and technology education to students. Utilities have found success by hosting “Water Days” or “Utility Days” where students learn about the essential services the utilities provide and the role operators play in providing those services. Some utilities offer tours of facilities or participate in “model-town government” exercises where students can shadow utility managers and operators for the day. Internship programs have been successful in educating high school-age students about the field of utility operations. Utilities can emphasize the opportunities utility careers offer to employees and highlight that work in the water sector can be a lifelong career rather than a short-term job.

In addition to communication and interest building, curricula are under development by United South and Eastern Tribes, Inc., (USET) for use in local high schools, vocational schools, or trade schools to prepare future operators for their initial certification exams. USET is partnering with industry experts to help build remote

training programs that serve students no matter their level of literacy, math competency, or location. The math course in the series begins at the 5th grade level and teaches students the necessary algebraic conversions to calculate basic operating parameters such as flow or plant loading. The online course allows for self-paced efforts from 15 to 100 hours based on skills needed and practice to achieve competency. This course also provides three college credits in basic math at nine higher educational institutions. USET is building workforce development in math by adding courses to assist tribal utility operators in acquiring higher levels of certification to enhance upward mobility to lead worker, supervisor, or superintendent positions to create economic opportunities for Tribal members and workforce stability for small tribal utilities.

The Saint Regis Mohawk Tribal Nation Utility organized a “Water Day” in 2018 at a local high school to share information about drinking water and the utility with students in the biology, chemistry, and environmental science classes. To promote the event, the utility organized a drinking water contest in the cafeteria where students were invited to judge drinking water taste from different sources, including tap water, finished water from the plant, and bottled water. Information about operator careers was also displayed at the same table. For “Water Day” the utility provided lunch and organized tours of the water and wastewater plants along with a question-and-answer session with candy prizes for correct answers to questions about what students saw on the tours.

High school curricula or internship programs can prepare students with the reading comprehension, math, and science skills necessary for certification exams. Providing younger students with information about the benefits of employment at the local utility may increase motivation to learn the necessary academic skills. Some local community colleges offer associate or other degrees in Water and Wastewater. Community college degrees or certificate programs in these areas may not be available near some rural tribal communities. Tribal utilities may want to coordinate with colleges, technical schools, or vocational programs in their area to develop training curricula for new water professionals.

Highlight career potential for new recruits interested in joining the field

Utility work can provide stability and opportunity for advancement. Increasing public awareness of these benefits can help utilities improve recruitment. Work as an operator offers daily unique challenges which candidates may find appealing. Operating utilities includes a combination of indoor and outdoor work and operators learn new skills while providing a vital public service. Most importantly, utility employment is a career path with lifelong opportunities as opposed to a short-term job. Utility work offers career stability and a vision for the future.

Improve job descriptions for water utility workers

Successful job announcements include clear descriptions of what the job offers the potential employee, as well as defines their responsibilities. Job descriptions should be written to ensure that expectations are clearly defined from the outset of employment to promote strong performance and accountability. Certification level requirements and deadlines to complete required certifications (e.g., a 4-year time limit to achieve grade 2 certification) should be clearly defined. As employees progress, the utility should incentivize completed certifications with wage increases or other incentives.

Job description templates used throughout the industry (such as the American Water Works Association (AWWA) job description templates) may not be adequate for tribal use. ITCA offers assistance by advertising tribal utility job announcements through ITCA's contacts list of tribal utility personnel. ITCA maintains a collection of tribal utility job announcements and job descriptions that were provided to ITCA for distributing. Upon request, ITCA can share examples of Indian country specific job announcements and descriptions.

3.2 Strategies to Improve Training

The water sector provides ample opportunity for advancement once new employees are hired by a utility. Certification courses and examinations are often the first step in a water operator's career. Continuing education throughout a career opens the door for advancement and a utility should take advantage of the growth and development of its workers. Training includes certification courses, continuing education courses, as well as mentorship and hands-on learning within the utility.

Meet the training needs of water professionals to support certification and expertise

Pre-training in math and science and additional test-taking strategies may be helpful to operators prior to the initial certification exam. These skills may be improved through specialized training programs, possibly through the utility or other local educational institutions. Increasing these skills may take time, and utilities may need to establish or amend certification schedules to allow for skill development. One approach that can support regular training is to provide one-hour training sessions at the end of the day, incorporating multimedia training resources such as YouTube videos.

Alaska Department of Environmental Conservation (DEC) has identified communities where the operator has not been able to successfully complete the certification exam and have mailed manuals and study guides to the operator. The program is also in the process of implementing study questions to accompany the guides/manuals and intends to award CEUs for completion of the question sets, which correspond to each chapter of the manual. There are also plans to incorporate the study questions into an online exam tool.

In addition to classroom training, hands-on learning experiences are valuable for training operators. This kind of learning can be done through apprenticeship and mentorship programs. Hands-on learning can also be incorporated into more traditional classroom teaching to help reach more experiential learners as well as increase students' interest. This could include incorporating plant tours into training, practicing sampling and lab analysis, or providing old equipment to practice operational tasks. The Indian Health Service also offers hands-on training on a variety of topics through its Environmental Health Support Center, such as courses on Lift Station Operations, Water Distribution Systems, and Occupational Safety and Health Administration (OSHA) safety practices. These classes include practice operating equipment and can be brought to a utility's location.

Web-based trainings and professional development opportunities, such as conferences or workshops, have become much more common in 2020 to enable social distancing measures related to the COVID-19 pandemic.

These online training techniques and resources can continue to be utilized in the future and may be especially helpful in reaching operators in remote areas.

Support operator certification through incentives

Operator certification and other professional development can be incentivized by the utility. The most common incentive would be increased compensation for an operator who achieves a more advanced certification or who takes on more responsibility. Career advancement milestones should be outlined early for junior employees or defined in their job description.

ITCA and USET are both approved, third-party certification providers under the national Tribal Drinking Water Operator Certification Program of the United States Environmental Protection Agency (USEPA). Applications for certification require a small fee to sustain the EPA-approved certification program. USEPA also launched a national certification program in 2010 to fill jurisdictional gaps between existing programs. The national program is available through USEPA Regions and does not charge any fees to the operator.

Tailor certification training for tribal utilities

USET has developed online training for operator certification, which includes the study materials, quizzes, class recordings, games, and puzzles used to practice for the certification exam. USET provides books prior to courses starting, incentives for operators through the process, and online testing at centers. USET holds a Tribal Utility Summit each year at a different USET member Tribal Nation, at which it offers two certification tracks: one in drinking water and one in wastewater. These tracks support a week-long certification training with certification testing offered on-site using the online system the last day of the course.

ITCA provides both on-site and live online training as part of a broad program of training, operator certification, and technical assistance tailored specifically to the needs of tribes. Through the Tribal Nation Water Systems program, ITCA administers the certification program for tribal personnel with exams that can be taken in person or online. ITCA provides extensive training and is often able to offset travel and training expenses for tribal water professionals.

The Southwest Environmental Finance Center (SWEFC) provides an extensive catalog of free on-site, in person, and online trainings tailored to meet the needs of tribal drinking water systems regulated by USEPA Region 6. Navajo Nation Environmental Protection Agency (EPA), as a primacy agency, offers their own operator certifications for drinking water and wastewater in addition to training and workshops for their member utilities. For prospective operators less experienced with standardized tests, test-taking training can help improve their rate of testing success. The Wyoming Association of Rural Water Systems has developed a test-taking training that includes tips for identifying key parts of questions and techniques for methodically solving problems along with broader examples of how to apply problem solving skills to real-world problems apart from tests.

Encourage professional development and career advancement through management training

Experienced, well-trained senior management staff are vital to retaining capable operators. Promoting and training experienced operations staff to be managers has many benefits for the workforce. Experienced water professionals often make good managers because they understand the needs of not only the system but also the staff providing operating service. Over time, employees become invested in the utility and the work the utility performs. Additionally, retaining employees and allowing them to grow into management roles can help retain institutional knowledge at the utility.

Examples of various management training programs that are either available to utilities or could serve as templates for programs for utilities include:

- ITCA conducted a nationwide job task analysis of Tribal Water/Wastewater Utility Managers and psychometrically established a professional credential (including a certification exam) specifically for tribal utility managers. ITCA offers a 5-day Tribal Utility Management training course that covers the Need-to-Know criteria of the Tribal Utility Management Certification Level 1 exam. The Tribal Utility Management professional certification is offered to tribal personnel for free, and the exam is offered through both paper-booklet testing and computer-based testing year-round. The Tribal Utility Management training course is offered both in-person and through live online training. <https://itcaonline.com/programs/environmental-quality-programs/tws-tmap/training-2/>

USEPA, along with the United States Department of Agriculture (USDA), developed a “Workshop in a box” to aid technical assistance providers, government agencies, and others in providing training to small rural utility operators on location. These materials have been refocused for tribal systems and rebranded as the Tribal Utility Tune-Up by ITCA. ITCA offers the Tribal Utility Tune-Up at no cost to the utility, on location, to tribes.

<https://www.rd.usda.gov/programs-services/services/sustainable-management-tools>

- The National Rural Water Association provides a Utility Management Certification which requires completing training courses and an exam covering utility management, finance, and operations. <https://wateruniversity.org/course/index.php?categoryid=4>
- Alaska’s Division of Community and Regional Affairs offers a Rural Utility Business Advisor (RUBA) program to increase the managerial capacity of water and wastewater utilities. The program provides training and management courses at hub communities as well as small-group training with managers at the utility. RUBA has also implemented online versions of these course to accommodate travel restrictions due to the COVID-19 pandemic. <https://www.commerce.alaska.gov/web/dcra/RuralUtilityBusinessAdvisorProgramRUBA.aspx>. A list of courses is available at: <https://www.commerce.alaska.gov/dcra/DCRATraining/Training/Courses>
- The National Rural Electrical Cooperative Association administers a Supervisor and Manager Development Program that provides management training for electric utility staff, with a mix on online and in-person courses. This program could serve as an example for developing a program geared specifically to the tribal water workforce. <https://www.cooperative.com/conferences-education/certificates/supervisor-and-manager-development-program/Pages/default.aspx>
- USET arranges for two USET member Tribal Nation Utility Executives to attend Management Training at the University of North Carolina at Chapel Hill, Kenan-Flagler Business School, Water and Wastewater Leadership School for no charge. This two-week in-person premier utility training school guides managers into becoming leaders, which helps them create organizations that thrive. <https://www.usetinc.org/departments/oerm/water-and-wastewater-utilities/>

3.3 Strategies for Retaining Qualified Personnel

Utilities can actively pursue employee retention strategies to avoid losing experienced employees. When an experienced employee leaves a utility, they take with them both the system-specific institutional knowledge they have acquired as well as the training investment the utility has made for that employee. Utilities can foster long-term loyalty by investing in their employees. Providing opportunities for career advancement encourages employees to work well knowing that there is room for growth. Good employees should be acknowledged and celebrated within the utility and beyond.

Provide competitive compensation

Benefits and compensation are among the most important factors affecting both recruitment and retention of staff. A well-rounded compensation package includes wages, benefits, and other characteristics that may appeal to workers, like flexibilities that promote a healthy work/life balance. Compensation should increase with an employee's professional advancement, and as operators earn advanced certifications and take on additional responsibility, utilities may provide increases in pay, paid time off, recognition, or other incentives.

Regular salary surveys can ensure a utility's compensation package remains competitive with the market. Salary surveys compare compensation rates and benefits offered in the local area, especially for other utilities who may be competing for the same potential candidates. Utilities can use the information learned in these surveys to inform their salary and benefit offerings and to assess how their utility compares with the rest of the sector regarding compensation.

Additionally, other, non-monetary benefits can also improve workforce recruitment and retention, such as schedule flexibility, job stability, and advancement opportunities within the field. Service to the community and the value of providing an essential service can also increase recruitment and retention as discussed in Section 3.1.

Recruit management staff from within

Operators who are promoted to management positions can do well in these roles because they understand the system and the needs of operators. Utility managers may consider a variety of factors, including competency, previous performance, and experience, to identify operators who may be effective managers and introduce them to managing specific tasks or projects. Staff identified as potential candidates for management promotion are likely to need support to grow into those positions. In addition to the training opportunities highlighted in Section 3.2, experiential or "on-the-job" learning opportunities can help prepare future managers for this type of work.

Create a plan for advancement

Utilities can prepare to retain workers by outlining a path for professional advancement. Mentorship, coursework, certifications, and operator retention can be improved by focusing on long-term goals (5-year plans, for example) toward which employees can strive. These long-term plans can be enhanced by showing staff how their wages and benefits will grow as they advance in the utility. Opportunities to advance within the utility to higher level certifications and potential management roles, with accompanying wage increases, can be appealing to those entering the water sector. Management can establish individual advancement plans for new employees to demonstrate the opportunity pathways that exist for employees.

The Poarch Creek Indians Utilities Authority has developed a mentoring and advancement track for new hires of the utility with the goal of certifying operators in both water and wastewater operations.

Within the first six months employees are trained with a commercial driver's license and field test flushing. Later training includes OSHA certifications and 30-hour water courses. Finally, wastewater is taught as an additional module in the water course. Additional study help is provided by pairing junior staff with a recently certified operator so both can improve their skills. New hires often have plumbing experience, so training in math and science is more important than hands-on field training. One-on-one discussions with management tailor progression plans to suit individual employees. Training is done almost exclusively in-house.

Foster mentorship relationships for newer staff

Between October 1 and December 31, 2019, the Lab Supervisor, a certified Lab Analyst, from Eastern Band of Cherokee (EBCI) traveled to Catawba Indian Nation twice and between visits provided remote peer-to-peer mentoring and assistance. At the initial site visit for both Tribal Nations in June 2019, USET requested and then coordinated EBCI taking a mentoring role with Catawba Indian Nation for distribution system operators to conduct water quality analyses meeting all EPA requirements for sample handling and analysis at Catawba Indian Nation. USET traveled to Catawba with an EBCI-certified Lab Supervisor and provided classroom, lab hands-on, and field sampling oversight during two subsequent site visits in late 2019. The mentoring was well received by the receiving Tribal Nation and allowed a very well-versed certified Lab Supervisor a chance to share her knowledge.

Utilities have found success in establishing mentorship programs so that experienced staff can pass knowledge down to junior staff. Mentorship, including internal peer-to-peer training, provides opportunities for the trainers to connect with the staff being trained. Utilizing experienced staff from within the utility as trainers increases the likelihood that the material will be relevant, and that staff will be engaged. Many workgroup members noted the importance of the instructors' relationship with the group.

Enlisting senior employees to mentor or train junior employees may also aid in retaining senior employees by demonstrating their value to the utility and providing new challenges beyond routine system operation. Senior staff possess system-specific institutional knowledge, which may not be contained in utility operating procedures or in operator training courses. Senior staff should be

encouraged or incentivized where possible to participate in this type of training, mentorship, and development of standard operating procedures to assist in succession planning in order to preserve knowledge for the next generation.

In addition to mentoring within a utility, neighboring utilities may also be able to assist each other with mentoring newer staff. Collaboration of this kind between utilities in a region can also foster further collaboration in the future, such as assistance during a natural disaster or emergency. USDA offers funding for this type of initiative through its technical assistance and training grant. The funds can be used to cover travel expenses as well as a stipend to bring in experienced operators to share information and build relationships.

Create and maintain employee recognition programs

Formal and informal recognition programs can demonstrate value and respect, which are critical elements for retaining qualified staff. Employees who go above and beyond their roles and those who take initiative to advance their careers should be acknowledged for their efforts. Recognition can occur within the utility or within the greater community. Recognition and praise from an outside entity within the community is very encouraging for operators and can be used to promote awareness of the utility to the community as well. Many communities have plans which recognize operators within the utility or before the greater tribal community. Some utilities use regional conferences as special occasions to recognize employees as well. Some primacy agencies have also developed recognition programs for utilities.

Alaska recently implemented a two-tiered recognition program for utilities, the "Water System Excellence Awards" which are given out annually. The first tier, "Ursa Major", awards systems with no violations in a calendar year and a certified operator for all four quarters. The second tier, "Ursa Minor" recognizes utilities with either four quarters of operator certification compliance and only one drinking water violation, or no violations and three quarters of operator certification compliance. This program was started in 2018 and included awards to many tribal utilities.

ITCA offers a “Tribal Operator of the Year” award. Nominations may be submitted from anyone in the community and stakeholders to acknowledge tribal utility operators who go above and beyond assigned duties, provide support to coworkers or assistance to another utility, or volunteer in the community. The winning operator is selected from the nominees by a panel of tribal operators. The nominees are then honored at the National Tribal Operator Workgroup Meeting. ITCA provides a follow-up recognition presentation of the award at the operator’s Tribal Council. A press release is also distributed describing the winning operator’s accomplishments and recognizing all nominees.

USET offers an “Operator of the Year” award and a “Drinking Water of the Year Award” which are presented at the annual Tribal Utility Summit. Operator nominations may be submitted from any USET member Tribal Nation utility to acknowledge operators who go above and beyond assigned duties. For the drinking water award, USET member Tribal Nations submit their drinking water anonymously, and a panel of drinking water professionals rate the water at the Tribal Utility Summit.

4. Opportunities to Improve Tribal Water Workforce Development

Across the country, tribal utilities are implementing many successful strategies and practices to improve the recruitment, training, and retention of tribal water workforce members. In addition to the practices and examples summarized previously, workgroup members identified the need for enhanced collaboration and improved resources and tools. These needs present opportunities for further work in the area of tribal water workforce development, which may be accomplished by workgroup members or other interested stakeholders.

4.1 Recruitment Needs

- Workgroup members expressed interest in developing and sharing resources related to hiring, such as operator job descriptions, sample pay scales, and advancement plans. These types of resources would be especially valuable for utility managers to be able to share with tribal human resources managers to improve hiring and retention.
- Members of the workgroup expressed interest in having example curricula or activities that can be used in tribal schools to educate students about drinking water and wastewater as well as promote the opportunities in the industry. Members suggested development of culturally appropriate example curricula for both the elementary school and high school level that can be adapted by individual tribal utilities.

4.2 Training Needs

- Members of the workgroup generally supported the development of online training resources that could serve to replace some in-person training requirements, thus reducing costs. Utilities without reliable broadband internet access would not receive the same benefit from improved online training resources, unless digital training materials were distributed in some physical form (e.g., CD, flash drive).
- Local educational institutions such as community colleges or vocational schools can be partners in establishing training programs. The Navajo Tribal Utility Authority has partnered with Navajo Technical University as a resource for training utility operators, and other tribal utilities may be able to form similar partnerships. There may be opportunities for USEPA or other organizations to develop resources on how these types of partnerships can be established and facilitate connections between educational institutions and tribal utilities.

4.3 Retention Needs

- One key factor in retaining qualified operators is providing opportunities for advancement and promotion. The workgroup members identified a need for training programs and courses to help operators transition to supervisory and management positions. While this type of program exists in some organizations and states, there is interest in increasing access to these programs and tailoring training for tribal-specific water utility needs.

Looking Ahead

Workforce needs in the water sector are expected to increase in the coming years, and this is true for tribal water utility workforce needs as well. Continued efforts are needed to recruit, train, and retain a dedicated workforce in tribal water utilities to continue to provide clean and safe water and protect public health in these communities. The activities and practices outlined in this document represent ongoing efforts from tribal utilities, associations, technical assistance providers, and federal agencies in working towards a resilient and qualified workforce to undertake this important work in tribal communities for years to come.

Appendix: Additional Resources

The following organizations were identified by workgroup members as having valuable resources to assist tribal utilities with workforce development issues.

- USEPA's Tribal Drinking Water Program provides information on capacity development, operator certification, financial assistance, and rule implementation as well as resources for collaboration and coordination. <https://www.epa.gov/tribaldrinkingwater>
- USEPA's Clean Water Indian Set-Aside Program (CWISA) provides funds for training, technical assistance, and education for tribal wastewater operation and management. The CWISA technical assistance and training program will help to ensure that the built wastewater infrastructure in Indian Country meets or exceeds its' design life and will help to increase and maintain access to basic sanitation services for Native Indian Tribes and Alaskan Native Villages. <https://www.epa.gov/small-and-rural-wastewater-systems/clean-water-indian-set-aside-program>
- Indian Health Service Environmental Health Support Center (IHS EHSC). USEPA is working with the IHS EHSC which provides training and resources on a wide variety of subjects. If a Tribe has a particular need not listed on the website, a targeted training approach can be developed. <https://www.ihs.gov/ehsc/>
- The American Water Works Association (AWWA) website serves as a resource for water utility career advancement and collaboration and contains links to resources for operator career advancement and to local utility associations as well. <https://www.awwa.org/Professional-Development>
- The Inter Tribal Council of Arizona (ITCA) provides technical assistance training resources including the "Tribal Utility Tune-Up Workshop" which is available to tribal water systems free of charge. <https://itcaonline.com/programs/environmental-quality-programs/tws-tmap/>
- United South and Eastern Tribes (USET) has developed technical assistance and training resources related to water and wastewater utility operation. USET also offers virtual trainings as well as hands-on technical assistance for their member Tribal Nations. <https://www.usetinc.org/departments/oerm/water-and-wastewater-utilities/>
- Navajo Nation EPA offers training and workshops for water operators, under their public water system supervision program. Information is available at their website as well. <http://navajopublicwater.org/opcertandtraining.html>
- The Southwest Environmental Finance Center (SWEFC) at the University of New Mexico has many free trainings and tools available to tribal water utilities related to increasing their technical, managerial, and financial capacity to provide safe drinking water. <https://swefc.unm.edu/>
- USDA Rural Development's Water and Waste Disposal Technical Assistance & Training Grant program helps qualified, private nonprofits provide technical assistance and training to identify and evaluate solutions to water and waste problems; helps applicants prepare applications for water and waste disposal loans/grants; and helps associations improve the operation and maintenance of water and waste facilities in eligible rural areas. As mentioned in the report, this program can be (and has been) used to support tribal water utility workforce development efforts. <https://www.rd.usda.gov/programs-services/water-environmental-programs/water-waste-disposal-technical-assistance-training>