Alaska Operator Certification Program Report for State Fiscal Year 2024

September 2024

Mike Dunleavy, Governor
Nancy Dahlstrom, Lieutenant Governor
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Executive Summary

The Safe Drinking Water Act Amendments of 1996 directed the Administrator of the United States Environmental Protection Agency, in cooperation with the States, to develop, implement, and enforce minimum standards for certification and recertification of operators of community and non-transient non-community public water systems. This annual program report for the Alaska Operator Certification Program is submitted pursuant to federal guidelines published in the Federal Register dated February 5, 1999, and in accordance with the guidelines provided by the EPA Drinking Water Protection Division. Alaska's annual operator certification report provides an update on the implementation of the Operator Certification Program for the period from July 1, 2023, through June 30, 2024.

Alaska currently regulates 641 community, non-transient non-community, and transient non-community[1] public water systems. In State Fiscal Year 2024 (SFY24), 82% of all water systems were compliant with the operator certification requirements by having operators certified at levels commensurate with the systems' classifications. During SFY24, the Alaska Operator Certification Program continued efforts to classify water systems, certify operators, and track and improve compliance rates.

The public health objectives of the Operator Certification Program are to ensure that the customers of Alaskan public water systems are provided with an adequate supply of safe, potable drinking water, are confident that their water is safe to drink, and that the operators are trained and certified as well as have the knowledge and understanding of public health reasons for drinking water standards.

Antibacksliding

The implementation of the federal requirements and level of service provided by the Alaska Operator Certification Program remains the same, and no backsliding has occurred since submitting the annual report covering SFY23.

[1] Per 18 AAC 74.006 and 18 AAC 74.400, transient non-community water systems using surface water or groundwater under the influence of surface water as a source are required to have properly certified water operators.

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Authorization (Baseline Standard 1)

Under the Safe Drinking Water Act (SDWA) Amendments of 1996, the State primacy agency is required to implement an Operator Certification Program and to provide annual reports in order to receive the full federal allocation under the Drinking Water State Revolving Fund (DWSRF). The Environmental Protection Agency (EPA) may withhold 20% of the State's funding if the Operator Certification Program requirements are not met.

The Alaska Department of Environmental Conservation (ADEC) is the designated State primacy agency for the Safe Drinking Water Act. The Operator Certification Program (OpCert) is housed within the ADECs Division of Water and is responsible for classifying water systems and certifying operators. Additionally, the Governor's Water and Wastewater Works Advisory Board (Board), comprised of eight water/wastewater professionals appointed to five-year terms by the Governor, provides counsel regarding critical programmatic efforts and decisions.

In response to federal guidelines, the Alaska Operator Certification Program regulations were revised in 2001 to include oversight of all community, non-transient non-community systems, and transient non-community systems that use surface water or groundwater under the influence of surface water as a source. Prior to 2001, OpCert only regulated systems serving populations of greater than 500 people or having greater than 100 service connections. Since 2001, OpCert's implementation of the program has consistently been approved by EPA as compliant with the 1996 Amendments to the SDWA.

Classification of Systems, Facilities, and Operators (Baseline Standard 2)

Water systems in Alaska are classified according to a point rating system that includes the production capacity, source water type, and complexity of the treatment processes. Water systems are divided into the following three categories:

- Small Water Systems:
    - Small Untreated Water Systems: Community water systems (CWS) and non-transient non-community water systems (NTNCWS) that serve fewer than 500 people, fewer than 100 service connections, and add no chemicals to the water. Small untreated systems may perform passive treatment such as softening or cartridge filtration.
    - Small Treated Water Systems: CWS, NTNCWS, and transient non-community water systems (TNCWS) that serve fewer than 500 people, fewer than 100 service connections, and add one chemical to the water. Small treated systems may perform passive treatment such as softening or cartridge filtration.
- Water Treatment Systems:
    - CWS, NTNCWS, and TNCWS that are required to have a certified operator per 18 AAC 74.006 and classified as classes 1 – 4 by using the point rating system in 18 AAC 74.120.

- Water Distribution Systems:
    - CWS and NTNCWS where no water treatment is taking place, are required to have a certified operator per 18 AAC 74.006 and classified as classes 1 – 4 per 18 AAC 74.120.

While the classifications of existing systems have been documented, constant attention must be paid to keep the data current as systems evolve, as well as to classify new systems.

The 641 Alaskan CWS, NTNCWS, and TNCWS requiring certified operators are classified as follows:

System Type	Class	Number of Systems
Small	Untreated	284
Small	Treated	114
Water Treatment	1	99
Water Treatment	2	111
Water Treatment	3	7
Water Treatment	4	3
Water Distribution	1	18
Water Distribution	2	3
Water Distribution	3	2
Total		**641**

Table 1: System Types

Classification efforts continued using a variety of methods during the SFY24 reporting period.

- OpCert distributed detailed classification data to all system owners. Owners were asked to review data for accuracy and respond when necessary.

- As in the past, OpCert continued to work closely with the Drinking Water Program (DWP) during the plan review process. DWP considers operator certification requirements and consults with OpCert when issuing approvals to construct and operate.

- OpCert staff reviewed sanitary survey reports, provided by DWP, which contain updated information regarding the current configuration of water systems.

- OpCert worked closely with engineers from the Village Safe Water Program (VSW) and the Alaska Native Tribal Health Consortium (ANTHC), as well as consulting engineers,

who are required to consult with OpCert regarding classification issues as systems are being designed or modified.

Operators in Responsible Charge of Water Systems

All public water systems are required to have a designated operator in responsible charge (ORC) who holds certification at a level equal to or greater than the classification of the system. For water treatment and water distribution systems, the ORC must be on-site at the system or, if off-site, the ORC must be available by radio or telephone and able to be on-site at the system within an hour. For small untreated and small treated water systems, the ORC must be on-site at the system or, if off-site, the ORC must be available by radio or telephone and able to be on-site at the system within three hours. The ORC makes all operational decisions.

The following charts summarize water system compliance at the end of SFY24.

System Class	Number of Systems	Without Certified ORC	Percent Without Certified ORC	With Certified ORC	Percent With Certified ORC	With Certified ORC at the Correct Level
SU	284	26	9%	258	91%	258
ST	114	15	13%	99	87%	99
WT 1	99	27	27%	72	73%	71
WT 2	111	20	18%	91	82%	67
WT 3	7	0	0%	7	100%	7
WT 4	3	0	0%	3	100%	3
WD 1	18	0	0%	18	100%	18
WD 2	3	1	33%	2	67%	2
WD 3	2	0	0%	2	100%	2
Total	641	89	14%	552	86%	527

Table 2: Compliance by System Type

SU = Small Untreated WT = Water Treatment

ST = Small Treated WD = Water Distribution

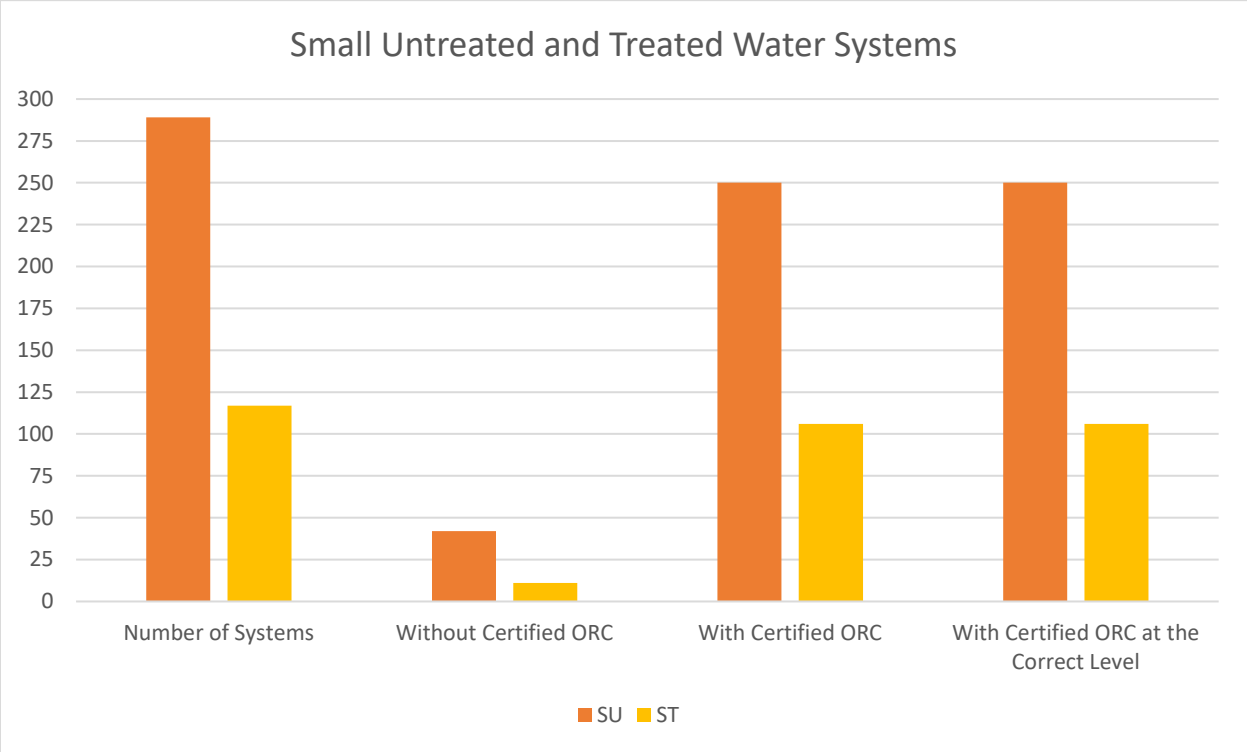

Figure 1: Small Water System Compliance

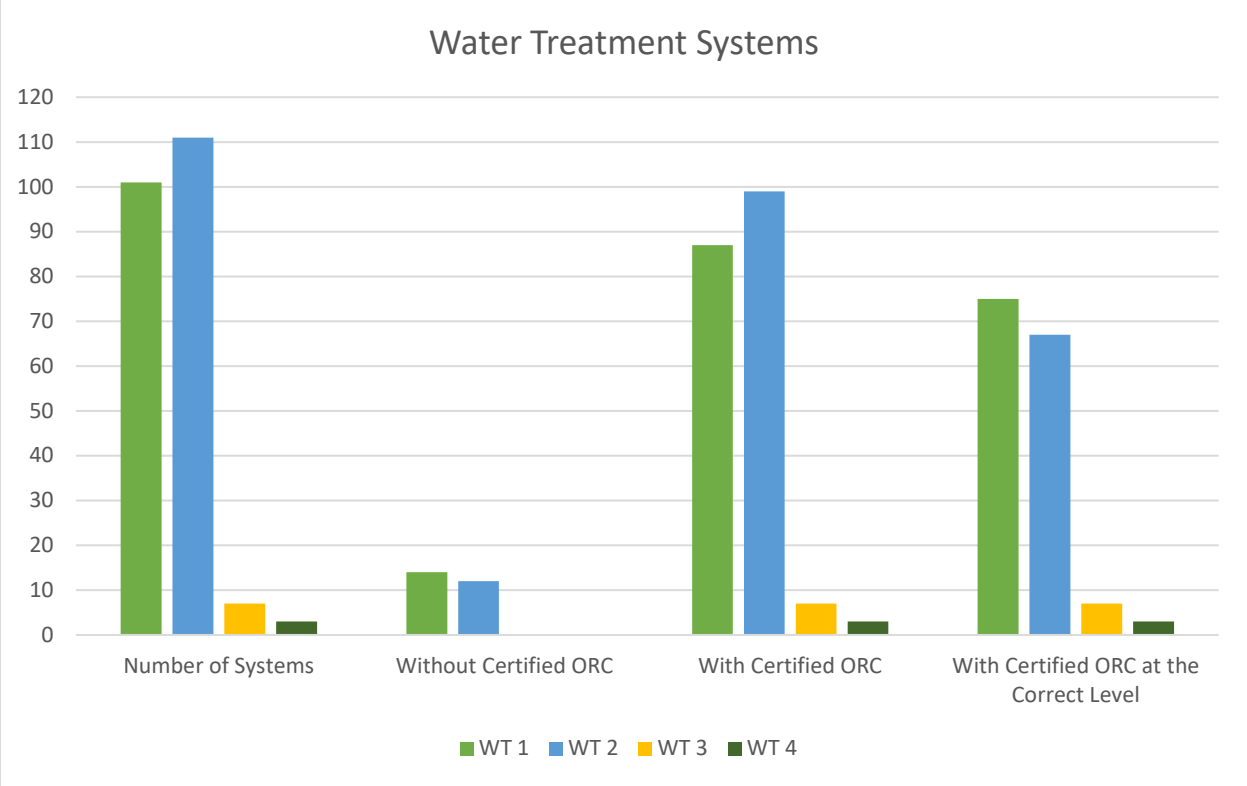

Figure 2: Water Treatment System Compliance

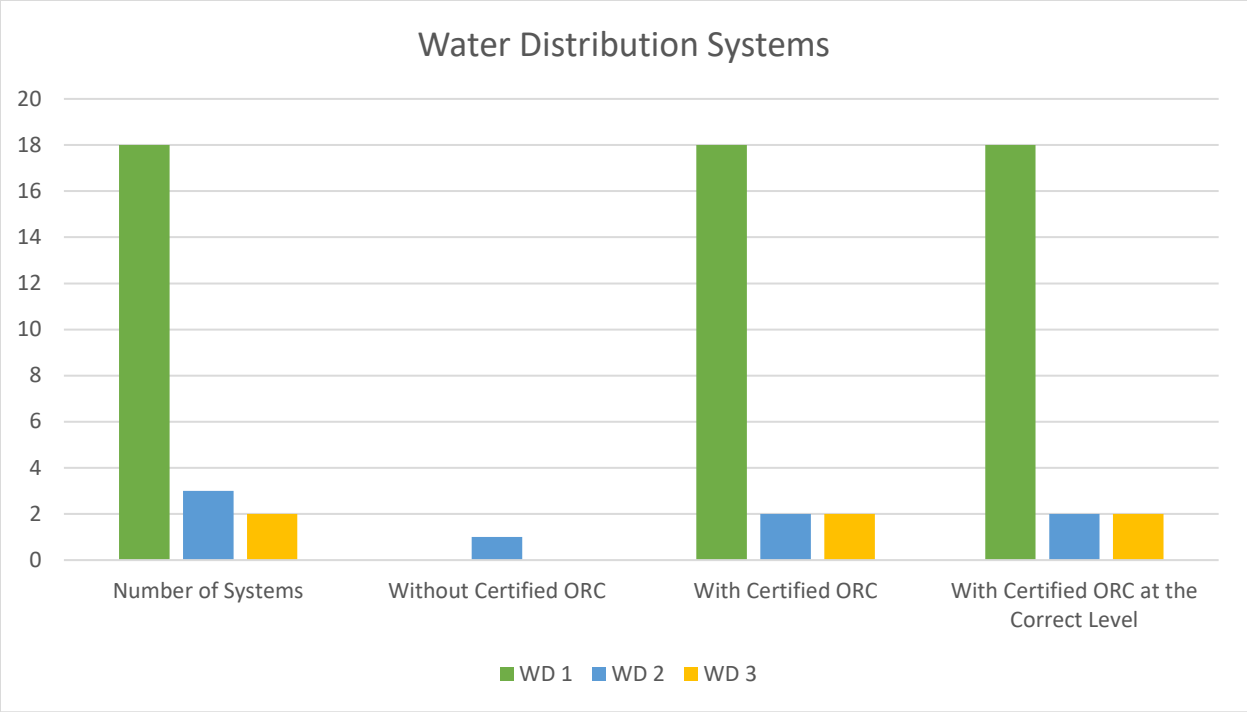

Figure 3: Water Distribution System Compliance

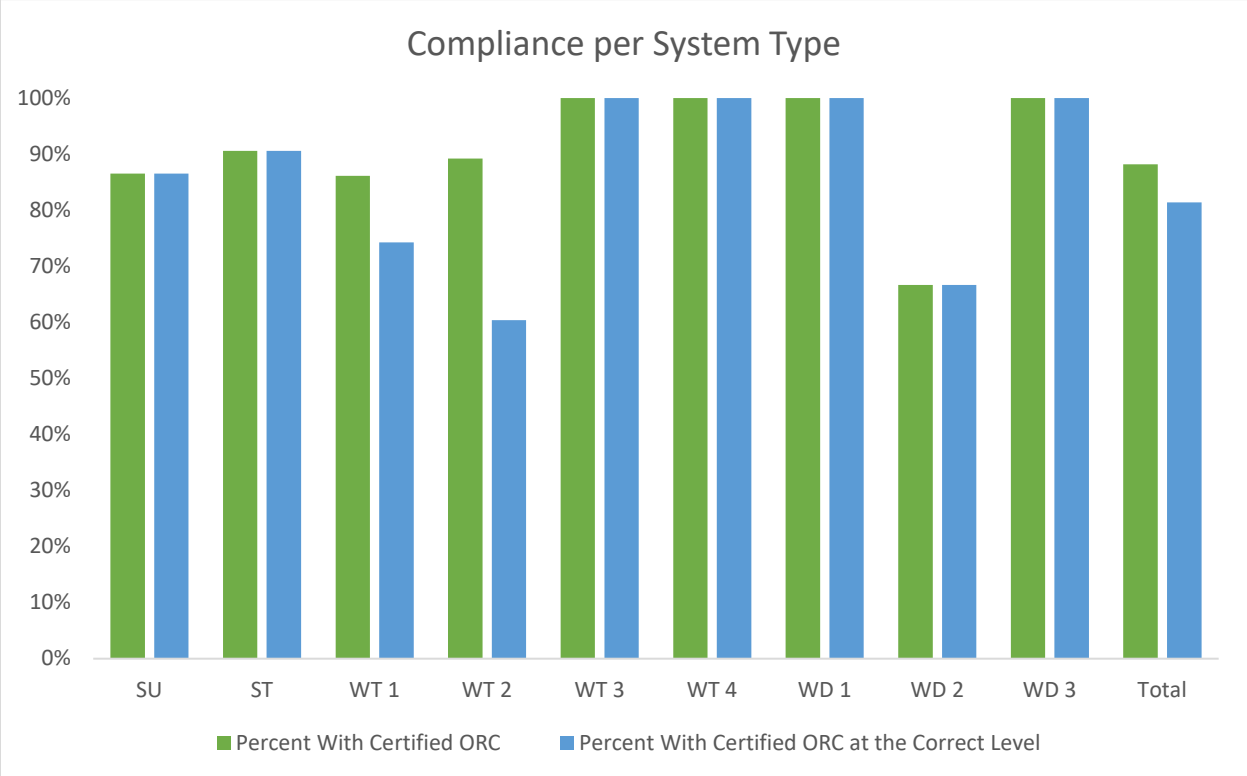

Figure 4: Compliance per System Type

Maintaining Operator and System Information

ORC compliance data is updated in the OpCert database using the following methods:

- Upon certification, operators are associated with systems based on information provided in their applications.
- Operator data is updated when OpCert staff review Sanitary Survey reports provided by DWP.
- Operator data is included as part of the routine notification to system owners regarding system classifications, and system owners notify OpCert of required changes.
- Operator data is confirmed using the quarterly reports of the Remote Maintenance Worker (RMW) Program. The RMW Program is comprised of 16 circuit riders who provide technical assistance to approximately 200 rural communities across the state. RMWs report current operator information for each system they support on a quarterly basis, and OpCert uses this information to update operator data.

Operator Qualifications (Baseline Standard 3)

Exam Administration

To become certified, operators must pass exams and meet experience and education requirements. There are five levels of certification each in water treatment and water distribution and two levels in small water system operations. Exams are available for each level and offered in a variety of settings.

Exams are purchased from Water Professionals International (WPI), formerly known as the Association of Boards of Certification (ABC); however, exams are still referred to as ABC exams. ABC exams are used by more than 100 certification programs representing over 40 states, 10 Canadian provinces and territories, as well as numerous international and tribal programs. WPI provides both paper and web-based versions of the standardized water treatment and water distribution exams for levels 1 through 4. The ABC standardized exams were developed through a rigorous psychometric process that included the use of in-depth job analyses surveys, development of “Need-to-Know” criteria from data acquired from the surveys, creation of exam items by subject matter experts, and beta testing of exams by operators in the United States and Canada. Alaska currently uses the ABC 2017 and 2019 standardized certification exams.

Exams are administered on-demand in rural communities in addition to the biannual statewide paper-based exams and online exams. Applications for certification are not reviewed until after

operators pass exams, and it is the responsibility of the operators to submit applications. In some cases, operators take exams at levels higher than previously passed exams knowing that they have not yet met the experience and education eligibility requirements for the higher levels of certification. In those cases, applications are not typically submitted immediately. For these reasons, the number of exams passed often does not reflect the number of certifications issued.

- Due to the availability of online exams, the number of paper-based exams being administered during the biannual statewide exam cycles has decreased significantly over the years. During the Fall 2023 exam cycle, one operator took and passed a water-related exam in Anchorage. During the Spring 2024 exam cycle, one operator took one water-related exam in Anchorage but did not pass. One exam cycle represents a month-long effort by OpCert staff in reviewing exam registration forms, scheduling proctor sites, mailing exams, notifying operators, and processing exam results.

- OpCert has been administering on-demand paper exams in rural communities since 2016. In SFY24, on-demand paper-based exams were administered in 27 rural communities to 35 operators who took 41 exams with 21 exams passed, resulting in 19 certifications. Applications for certification have not yet been submitted for the remaining two.

- Water treatment and water distribution provisional level exams were administered at eight classroom and three virtual introductory level courses sponsored by tribal health corporations and private trainers. Classroom courses consisted of four days of instruction followed by administration of the water treatment and/or water distribution provisional level exams. Virtual courses were conducted by the Alaska Native Tribal Health Consortium (ANTHC). ANTHC's virtual water treatment courses were spread over four weeks with three hours of instruction on Mondays, Wednesdays, and Fridays with the instructor available for additional tutoring as necessary. ANTHC's virtual water distribution course was spread out over two weeks, with three hours of instruction on Mondays, Wednesdays, and Fridays with the instructor available for additional tutoring as necessary. Exams were administered in the attendees' communities upon the conclusion of the virtual courses. One hundred five operators attended classroom courses and thirty-four operators attended virtual courses. The 34 operators who attended virtual courses took their exams in one of 30 communities. In total, 139 operators took 146 exams at introductory courses in SFY24. Operators passed 92 exams, with 52 resulting in certification. Applications for certification have not yet been submitted for the remaining 40.

- Small treated exams were administered at two virtual courses and three classroom courses taught by ANTHC and tribal health corporations. The virtual courses consisted of daily training sessions of 2 to 3 hours over two weeks, followed by small treated exams administered in the attendees' communities. The classroom courses consisted of 20 hours of instruction over 2 ½ days. Thirty-eight operators attended virtual courses and

took 38 exams administered in 27 communities. Thirty-seven operators attended classroom courses and took 37 exams. Operators passed 53 exams, resulting in the same number of certifications.

- Water distribution level 1 and 2 exams were administered at one combination level 1 and 2 course taught by a private trainer. The course consisted of four days of instruction followed by administration of the water distribution level 1 or 2 exam. Eighteen operators attended the course and took 18 exams. Operators passed 14 exams resulting in 5 certifications. Applications for certification have not yet been submitted for the remaining 9.

- Water treatment level 2 exams were administered at an intermediate water treatment classroom course sponsored by a tribal health corporation in partnership with the Alaska Rural Water Association (ARWA), and at one virtual course taught by ANTHC. The classroom courses consisted of four days of instruction followed by administration of the water treatment level 2 exam. ANTHC's virtual intermediate water treatment course was spread over four weeks with three hours of instruction on Mondays, Wednesdays, and Fridays with the instructor available for additional tutoring as necessary. Thirty-seven operators attended the courses and took 37 exams. Operators passed 19 exams resulting in 7 certifications. Applications for certification have not yet been submitted for the remaining 12.

- Online certification exams for small untreated and small treated water system operators were available at 11 testing locations: Anchorage, Bethel, Dillingham, Fairbanks, Glennallen, Homer, Kenai, Ketchikan, Klawock, Kodiak, and Palmer. Thirty-six operators took online small water system exams with 33 passing, all resulting in certification.

- Online water treatment and water distribution exams were available at 14 testing locations throughout Alaska: Anchorage, Bethel, Cordova, Fairbanks, Homer, Juneau, Kenai, Ketchikan, Klawock, Kodiak, Palmer, Sitka, Utqiagvik, and Valdez. The expedited registration process allows operators to be authorized for online exams in less than a month. Registration deadlines are the 1st of each month, and operators are authorized for exams by the 22nd of the same month. Operators are allowed 100 days from authorization to take exams. The OpCert database provides operators with the convenience of online exam registration. Ninety-six operators took 159 water treatment/distribution exams online. Operators passed 95 exams resulting in 58 certifications. Applications for certification have not yet been submitted for the 37 remaining passed exams.

The following charts summarize exam pass rates by delivery type.

Type	Exams	Exams Passed	Exam Pass Rate	Certifications
Exam Cycle	2	1	50%	0
On-Demand	41	21	51%	19
Provisional Courses	146	92	63%	52
Small Treated Courses	75	53	71%	53
WD Level 1 & 2 Courses	18	14	78%	5
WT 2 Courses	39	20	51%	7
Online SU & ST	36	33	92%	33
Online WT & WD	159	95	60%	58
All Exams	516	329	64%	227

Table 3: Exam Pass Rate by Delivery Type

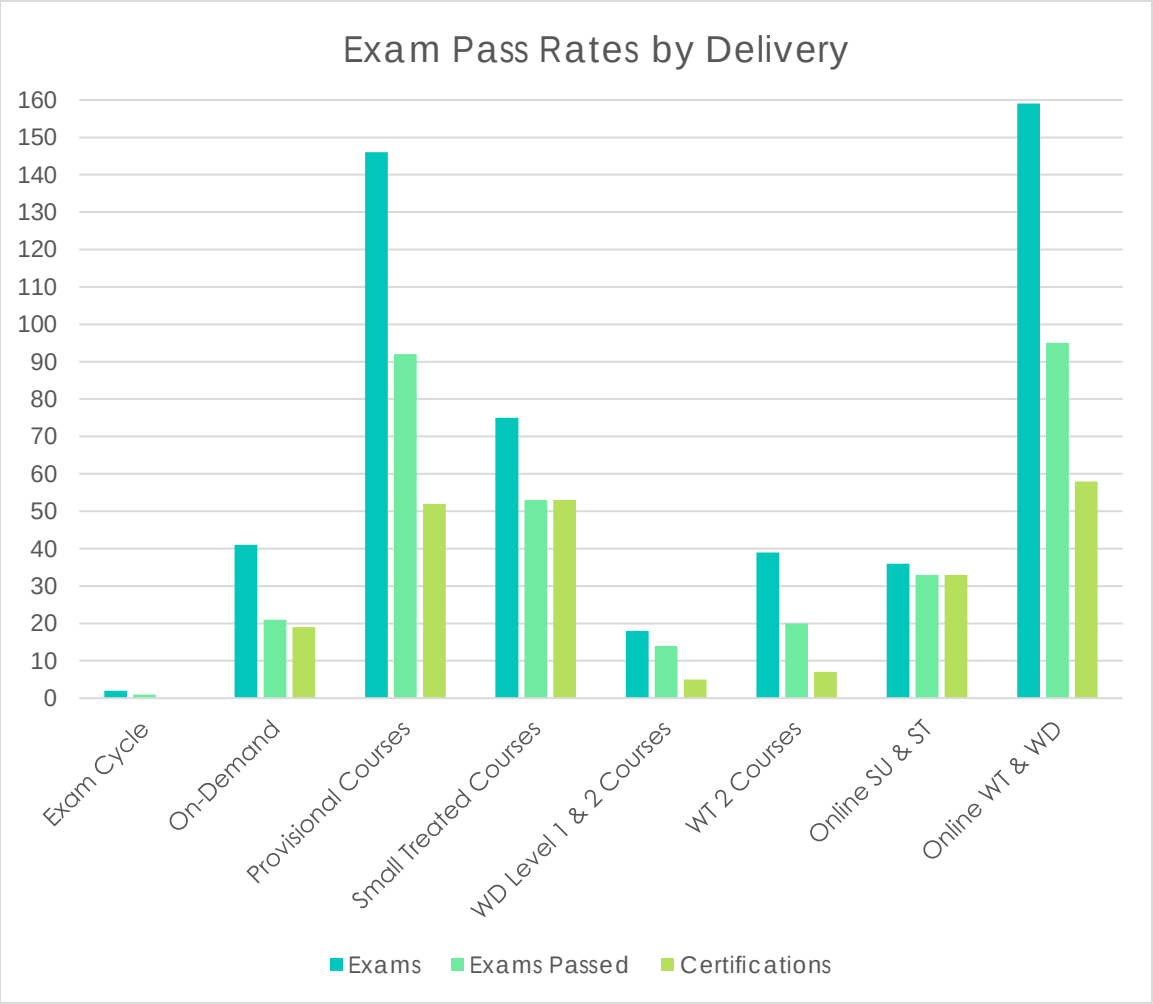

Figure 5: Number of Exams Passed by Delivery Method

In part due to the benefits of flexible scheduling and instant scoring available with online exams, the number of paper-based exams administered during exam cycles has declined significantly since online exams became available in 2011. The following charts summarize the shift from paper-based exams to online exams.

Year	Total Paper-Based*	On-Demand Paper	Online	Total
2011	210		57	267
2012	177		105	282
2013	182		183	365
2014	119		168	287
2015	120		173	293
2016	100		195	295
2017	85	30	243	328
2018	65	43	211	276
2019	82	65	167	249
2020	41	35	172	213
2021	41	40	175	216
2022	29	25	158	187
2023	53	44	207	260
2024	43	41	195	238

*Total Paper-Based is the exam cycle and on-demand paper exams and does not include paper exams administered at courses.

Table 4: Paper-Based vs. Online Exams

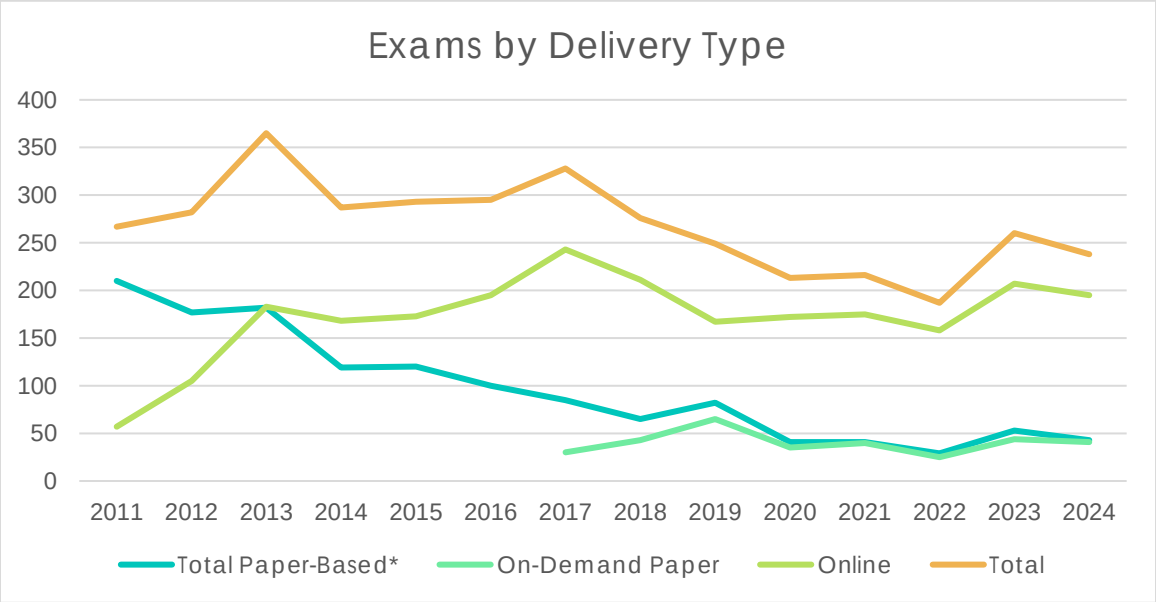

Figure 6: Comparison of Exam Delivery Method

Certification of Operators

After passing a certification exam, operators are required to demonstrate they have met education and experience requirements to obtain certification. The minimum education requirement for certification is possession of a high school diploma, GED, or relevant experience, substituting for the lack of education. Level 3 and 4 certifications require additional postsecondary education. Minimum experience requirements for certification are outlined in 18 AAC 74.050.

Reciprocity

Reciprocity is evaluated on a case-by-case basis taking into consideration the experience and education requirements of the certificate the operator holds from the other state, the exam passed, and education and operations experience. By Statute, reciprocity cannot be granted for certificates from states that do not grant reciprocity for Alaska certifications. Five water-related certificates were issued via reciprocity in SFY24.

Enforcement (Baseline Standard 4)

OpCert continued to emphasize increasing exam availability and educating operators and systems about the certification requirements. As a result, OpCert staff spent significant time responding to requests for information regarding the certification requirements for large and small systems.

Historically, OpCert has focused on compliance assistance. In 2013, a Compliance and Enforcement Strategy was developed that outlines the enforcement process and describes a ranking system used to determine where OpCert will focus its efforts.

Additionally, the Drinking Water regulations (18 AAC 80) require that systems comply with the Operator Certification regulations (18 AAC 74). Therefore, DWP includes operator certification requirements as part of their enforcement actions, and both programs continue to work closely with non-compliant systems.

Efforts to Increase Compliance Rates

During the SFY24 reporting period, OpCert continued a quarterly schedule of analyzing the compliance status of systems. Compliance data was gathered, and systems were ranked using the method described in the Compliance and Enforcement Strategy. The ranking method considers factors such as system type, population served, source water, and system classification.

Water Treatment and Water Distribution Systems

All water treatment and water distribution systems, regardless of compliance status, were mailed letters, including a summary of the certification requirements, detailed system classification data, and operator information. OpCert received several responses from system owners with updated information and provided assistance regarding options for achieving compliance.

To enhance the tracking of compliance and enforcement, the water treatment and water distribution systems are divided up into geographical regions and assigned to one of the OpCert staff. This regionalized approach is also used by other ADEC programs, as well as technical assistance providers that support water systems, and allows “regional teams” to work together to address compliance issues. Weekly staff meetings were conducted to keep abreast of the status of non-compliant systems.

Small Untreated and Small Treated Water Systems

All small untreated and small treated water systems, regardless of compliance status, were sent compliance notification letters. OpCert continued to track the compliance status of these systems and worked with operators to obtain certification.

As with the larger systems, the small water systems are divided up into geographic regions and assigned to one of the OpCert staff for more individualized attention. Additionally, OpCert conducted weekly staff meetings to keep abreast of the status of non-compliant systems.

Agency Coordination Meetings

OpCert participated in agency coordination meetings in six rural regions of the state. The meetings provided an opportunity to coordinate with agencies that work with rural Alaskan communities on issues related to sanitation. Other agencies participating in the meetings included regional tribal health corporation RMWs and sanitarians, the Rural Utility Business Advisor Program (RUBA), DWP, the ADEC Wastewater and Solid Waste Programs, and VSW and ANTHC engineers. During the meetings, OpCert described the compliance status of each rural community, received input from other agencies regarding community-specific issues, updated system classification and operator information, and discussed options available to communities for achieving compliance.

Following the agency coordination meetings, OpCert staff traveled with RMWs and other technical assistance providers to rural communities in some regions to meet with local operators and discuss training and certification needs. In two communities, OpCert staff

proctored certification exams for the local operators, resulting in two certifications and one system achieving compliance.

Image 1: OpCert, RUBA, and RMW staff meeting with water plant operators in the village of Kwethluk following the Yukon-Kuskokwim region agency coordination meeting.

Compliance Rates

As reported in 2023, 82 percent of systems were in compliance by having a properly certified operator on staff. Currently, 82 percent of systems are in compliance.

OpCert conducted a review of systems that changed compliance status from SFY23 to the present. Those findings are shown in Appendix A. The review shows that the overall compliance rate was affected by several factors:

- Systems achieving compliance (23 systems)
- New systems becoming active and achieving compliance (9 systems)
- Inactive systems becoming active and achieving compliance (2 system)
- Non-transient groundwater water system increasing in population to become NTNCWS and achieving compliance (1 system)
- Systems upgraded in classification and still working toward compliance (3 systems)
- New systems becoming active and working toward compliance (3 systems)
- Operator turnover where properly certified operators left a system (10 systems)
- Operators failing to renew certifications (6 systems)

System Specific Training and Certification (S_2TC)

Previous reports discussed efforts to develop training modules and certification exams that will be used to train and certify operators of systems that are chronically out of compliance with operator certification requirements. In SFY24, OpCert, in collaboration with the Capacity Development (CapDev) and RMW Programs, finalized eleven of fifteen modules in preparation for S_2TC Program beta testing. The modules were further reviewed by members of the Board and their feedback was incorporated. A detailed guidance document was developed to assess an operator's eligibility to participate in the S_2TC Program and lay out the steps for administering the program (Appendix B).

One community with a long-standing operator who has been unable to pass the Level 2 water treatment exam, despite repeated attempts, was identified for beta testing and began taking the S_2TC modules in SFY24. It is anticipated that the operator will complete the program in SFY25. If successful, the operator will be issued a system-specific certification that will bring the system into compliance with OpCert requirements. Additional communities/operators have also been identified for potential beta testing in SFY25. Based on feedback from the beta testers, the modules will be further refined and offered to more operators who meet the S_2TC guidance criteria.

Operator Disciplinary Action

Per 18 AAC 74.830, OpCert, with the Board's recommendation, has the authority to impose disciplinary action for acts of misconduct by an operator. In SFY24, OpCert initiated an investigation into alleged acts of operator misconduct involving inadequate sampling of a treatment chemical and falsification of water treatment plant logs. The investigation by OpCert, which continued into SFY25, resulted in OpCert issuing letters of reprimand to two water treatment operators, as well as the adoption of a corrective action plan between DWP and the system to address related issues.

Certificate Renewal (Baseline Standard 5)

Operators are required to obtain continuing education every three years to be eligible to renew certifications. Operators holding water treatment or water distribution certification are required to obtain three Continuing Education Units (CEUs), while operators holding small treated or small untreated certification are required to obtain one and 0.5 CEU, respectively. An operator who has obtained the required CEUs has up to one year to pay the renewal fee. However, the price of renewal increases over time during that one year, and the certificate is not valid until the fee has been paid.

Type	Renewed	Lapsed Certificate with CEU Requirement Met but No Payment	Lapsed Certificate with CEU Requirement Not Met
SU	19	0	7
ST	54	29	28
WT P	22	10	14
WT 1	60	6	16
WT 2	45	0	12
WT 3	26	0	6
WT 4	23	0	4
WD P	27	8	15
WD 1	58	2	19
WD 2	32	0	4
WD 3	14	0	4
WD 4	18	0	3
Total	398	55	132

Table 5: Renewal Status for Certificates that Expired on December 31, 2023

Continuing Education

Alaskan operators earned continuing education through the following means:

- Classroom courses taught by a variety of organizations
- Correspondence courses
- Utility-sponsored training
- Industry conferences
- Online training

During the SFY24 reporting period, OpCert recorded over 1,800 individual continuing education courses attended to operators' files. OpCert continued its support of training by approving 125 online and classroom courses. ARWA sponsored a statewide conference in October. The Alaska Water Wastewater Management Association (AWWMA) sponsored regional and statewide conferences in October and May respectively.

California State University Small Water System Videos

During the SFY24 reporting period, OpCert administered 93 of the California State University (CSU) *Small Water System* and *Water Systems Operation and Maintenance* correspondence type video series courses. The video courses are especially relevant to the operation and maintenance of small water systems and provide small system operators with the continuing education required to keep their certifications current.

ADEC Introduction to Small Water Systems Correspondence Course

The Introduction to Small Water Systems manual is administered as a correspondence course by OpCert. This course qualifies operators for provisional level water treatment and distribution certification after passing the respective certification exams. Three operators completed this course during the SFY24 reporting period.

ADEC Small Untreated and Small Treated Water Systems Correspondence Courses

OpCert offers two correspondence courses targeting operators of small water systems. The Small Untreated Water System course qualifies operators for small untreated water system certification after passing the certification exam. Ten operators completed this course during the SFY24 reporting period. The Small Treated Water System course qualifies operators for small treated water system certification after passing the certification exam. Twenty-one operators completed this course during the SFY24 reporting period.

Presentations at Conferences and Public Outreach

Typically, OpCert attends and conducts presentations at several industry conferences per year. In SFY24 OpCert presented at the ARWA Annual Statewide Conference in Anchorage, the AWWMA Southeast Alaska Conference in Juneau, and the AWWMA Statewide Conference in Anchorage. Topics included the importance of certification, exam preparation, the exam/certification process, online operator profiles, and the new Water System Operator Reimbursement Program (see Special Projects on page 20).

In addition to presenting at the AWWMA Statewide Conferences in SFY23 and SFY24, a team of OpCert and CapDev staff participated in the Hydrant Hysteria Challenge, where small teams race to assemble fire hydrants in the fastest time. Competing in this event gave OpCert and CapDev staff hands-on experience with the some of the duties that operators perform, as well as allowed an opportunity to interact on a personal level with operators. The all-women OpCert/CapDev team won their division at the conference in SFY23, which qualified them to participate in the national Hydrant Hysteria competition at the American Water Works Association (AWWA) Conference in June 2024 in Anaheim, California. There, they placed 10th

out of 21 teams, competing against teams of operators from some of the largest water utilities in the country. At the 2024 AWWMA Statewide Conference, the OpCert/CapDev team recorded the fastest time in the entire competition, for both women and men, and qualified to compete at the next AWWA national conference in June 2025 in Denver, Colorado.

Image 2: OpCert and CapDev competing in the Hydrant Hysteria Challenge at the 2024 AWWA Conference in Anaheim, CA.

Additionally, in March 2024, OpCert and CapDev staff delivered a presentation in Fairbanks to current and former students of the University of Alaska's Process Technology Program about career opportunities in the water industry.

Image 3: OpCert and CapDev staff presenting to UAF Process Technology Program students.

Resources Needed to Implement the Program (Baseline Standard 6)

OpCert is funded from two overall sources: Program Receipts generated from fees charged for exams, application reviews, certificate renewals, and reciprocity reviews; and DWSRF Set-Aside funds.

OpCert staff consists of one program manager, three full-time professional-level staff, and one full-time paraprofessional-level staff. OpCert staff provides all services related to operator certification including administration of exams, review of certification applications, classification of water systems, review of training courses for continuing education, and compliance and enforcement of water systems. OpCert has a customized database to track all data related to operator certification. This database is currently maintained via a five-year contract with Wostmann and Associates.

Under the current organization, and with the present level of funding, Alaska has sufficient resources to implement the OpCert Program for the foreseeable future.

Recertification (Baseline Standard 7)

Certificates are valid for a three-year period beginning on January 1 of the year of issuance. Once a certificate has expired, the operator is no longer certified. To regain certification, an operator must take and pass the exam and then apply for certification. Operators are allowed to take the exam at the level of the expired certificate for three years after expiration. After three years, operators must retake exams sequentially starting at level 1.

Stakeholder Involvement (Baseline Standard 8)

Stakeholder involvement is important to meeting the public health objectives of Alaska's Operator Certification Program. It helps ensure the relevancy and validity of the program and instills confidence in all interested parties. In recognition of this, Alaska employs various strategies to include ongoing stakeholder involvement, including an advisory board.

The Governor's Water and Wastewater Works Advisory Board

The Board is a group of eight water/wastewater professionals established to advise ADEC on matters of operator certification and training. The current Board is comprised of certified operators, public works personnel, trainers, and engineers. New members of the Board are appointed by the Governor. The Board generally meets every 9 to 18 months, as needed. The

Board did not meet formally in SFY24, but OpCert staff communicated with and received input from Board members on issues related to system classification, operator misconduct, and the S_2TC program.

Program Review (Baseline Standard 9)

The Facilities Program Manager and the Technical Assistance (TA) Program Manager assist in conducting periodic peer review meetings of the Operator Certification Program's processes, procedures, and data management. The Operator Certification Program's three Environmental Program Specialists (EPS) are each assigned to work with water systems in a geographic region of Alaska, consistent with the regional assignments of RMWs and Local Government Specialists with the RUBA Program. This allows each EPS to develop a relationship with the system owners and operators in their regions, as well as the technical assistance providers that support them, thus enhancing communication. This approach has also improved program efficiency and effectiveness. Additionally, weekly system compliance meetings are conducted to keep the TA Program Manager and the Operator Certification Program Manager abreast of the compliance status of the systems in each EPS's region.

Special Projects during the SFY24 Reporting Period

In addition to the routine work of the Operator Certification Program, OpCert staff spent significant time and effort on special projects during SFY24.

- Water System Operator Reimbursement Program
- Water System Excellence Award
- Rural Sanitation Calendar
- Database Enhancements

Water System Operator Reimbursement Program

In an effort to make training more accessible, particularly for operators of small and rural water system operators, in SFY24 the OpCert Program reinstituted a program to reimburse water system operators and owners for water-related training expenses. The program had previously existed from 2008-2013 and was able to be reinstated due to DWSRF set-aside funds available through the Bipartisan Infrastructure Law. After applying for and receiving pre-approval from OpCert, operators could attend trainings and submit receipts to be reimbursed for expenses up to $1,000 per operator, including airfare, lodging, and course fees. The program was initiated in October 2023 with a total of $80,000 available for reimbursements in SFY24. OpCert distributed information about the program to operators and administrators of small and rural water systems, as well as to technical assistance providers who work with small systems.

From October 2023 to June 2024, ninety-eight operators submitted reimbursement pre-approval applications to OpCert. Of the 98 operators who submitted pre-approval applications, 49 subsequently submitted receipts for training-related costs and received reimbursement. A total of $55,685 in training-related costs were submitted for reimbursement. The average amount of expenses submitted per operator was $1,667. As reimbursement was capped at $1,000 per operator, and not every operator requested the full amount, a total of $32,310 was reimbursed by the program in SFY24.

In SFY25, a total of $150,000 will be made available for the Water System Operator Reimbursement Program. Based on feedback from SFY24, the reimbursement limit will be raised to $2,000 per operator, with an option for operators to apply for additional funds if needed. The increase in the reimbursement limit will hopefully allow more small and rural systems to take advantage of training opportunities.

Water System Excellence Award

The Water System Excellence Award (WSEA) is a joint venture between OpCert and DWP. The WSEA recognizes water systems that achieve outstanding performance in the operation of their systems. The WSEA has two tiers: Ursa Major and Ursa Minor. To earn the Ursa Major award, a water system must maintain four quarters of operator certification compliance with no open, unresolved, or incurred drinking water violations during the award year. To earn the Ursa Minor award, a water system must maintain four quarters of operator certification compliance with no more than one open, unresolved, or incurred drinking water violation during the award year, or maintain three quarters of operator certification compliance with no open, unresolved, or incurred drinking water violations during the award year. For the 2023 award year, 280 water systems were awarded Ursa Major and 70 were awarded Ursa Minor. All awardees were mailed certificates and were recognized at the AWWMA Statewide Conference. The certificates also acknowledge water systems that have earned WSEA awards for multiple years in a row. In the 2023 award year, there were 66 water systems that had earned the Ursa Major award every year since WSEA was inaugurated in 2018.

Rural Sanitation Calendar

Annually, the CapDev Program, in collaboration with OpCert, creates and distributes a rural utility calendar that includes reminders for deadlines associated with utility management and water monitoring requirements. This calendar also includes contact information for all the state programs that assist utilities in the management of their water systems. In SFY24, over 500 calendars were mailed to rural communities.

Database Enhancements

Following the migration of State of Alaska database servers from on-site to cloud-based hosting in 2023, OpCert noted significant performance issues with the desktop application that program staff use to track all operator and system information, including frequent system freezes and crashes. In addition, the application's user interface had become outdated, with little ability for staff to adjust the application to suit their individual needs. Due to the scope of the issues with the application, and the constraints of the programming language originally used to create it, these issues were unable to be addressed under the existing maintenance contract for the database.

In SFY24, OpCert initiated a one-year contract with Wostmann and Associates to comprehensively redesign and convert the program's database desktop application to a web-based application. Converting to a web-based application will allow the application and the databases that it draws from to be co-located on the same cloud servers, eliminating the most significant cause of the application's performance issues. Additionally, during the course of the contract, the contractor and OpCert staff will collaborate to modernize the user interface as well as improve workflow of the tasks that OpCert conducts through the application. The new application is anticipated to be completed in SFY25.

Implementation Schedule Update

Program implementation will proceed as follows over the next year:

- Maintain the current level of exam availability by offering exams on-demand in rural communities, during the biannual exam cycles, in conjunction with courses, and in an online format.
- Continue efforts to develop the training and exam materials required for the System Specific Training and Certification Program and move forward with program implementation.
- Continue with implementation of the Compliance and Enforcement Strategy through a quarterly analysis of compliance data and targeted communication to systems, taking advantage of OpCert's approach to offering exams on-demand in rural communities.

Certification Challenges in Rural Alaska

Rural Alaskan water operators face many challenges and obstacles in obtaining certification not often seen in the contiguous United States. Due to Alaska's vast distances and severe weather changes, operators frequently experience difficulty in traveling to "hub communities" to obtain relevant training to prepare for certification exams. Additionally, many rural communities may not have the funding to send their operators to trainings. In those cases, online training may be

an option; however, many rural communities lack adequate internet access; therefore, many rural operators are unable to attend and/or complete online trainings.

Language and education barriers are also significant challenges to rural operators passing certification exams and obtaining certification. Some rural operators speak primarily Alaskan Native languages and have English as a second language. Many rural operators also have relatively limited formal schooling, with some not having completed high school or equivalent.

Frequent operator turnover is also a significant challenge for rural Alaskan water systems. Some factors that lead to higher turnover in rural communities include low wages, difficult working conditions, and the need for some operators to spend considerable time in subsistence activities, such as hunting and fishing. Due to these factors and others, many rural communities struggle to employ properly trained and certified operators on a long-term basis.

Appendix A: Changes in Compliance

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Changes in Compliance for Water Treatment and Water Distribution System from SFY23 to SFY24

System	Class	July 2023	July 2024	Comments
Port Lions	WT2	Out of Compliance	In Compliance	
Saint Paul	WT1	Out of Compliance	In Compliance	
Nunam Iqua	WT2	Out of Compliance	In Compliance	
Eek	WT2	Out of Compliance	In Compliance	
Willow Tree Apts	WT1	Out of Compliance	In Compliance	
Akiak	WT2	Out of Compliance	In Compliance	
Too'gha Inc - in Tanana	WT2	Out of Compliance	In Compliance	
LKSD Joann A. Alexie Memorial K-12 School	WT2	No System	In Compliance	New system
Alaska Wildlife Center	WT2	In Compliance	Out of Compliance	Operator turnover
Port Graham	WT2	In Compliance	Out of Compliance	Operator's certificate expired
Hooper Bay Old Town Site #1	WT2	In Compliance	Out of Compliance	Operator turnover
Sleetmute	WT1	In Compliance	Out of Compliance	System was reclassified from ST to WT1
FAA Bethel Well	WT2	In Compliance	Out of Compliance	System was reclassified from WT1 to WT2
Shageluk	WT1	In Compliance	Out of Compliance	System was reclassified from ST to WT1
CRNA Tazlina Health Clinic	WT2	In Compliance	Out of Compliance	Operator's certificate expired
Kaltag	WT1	In Compliance	Out of Compliance	Operator's certificate expired

Changes in Compliance for Small Untreated and Treated Water Systems from SFY23 to SFY24

System	Class	July 2023	July 2024	Comments
ASD O'Malley Elementary School	SU	Out of Compliance	In Compliance	
ASD Huffman Elementary School	SU	Out of Compliance	In Compliance	
Kingsberry Homeowners Association	SU	Out of Compliance	In Compliance	
Cohoe Subdivision	SU	Out of Compliance	In Compliance	
ASD Ravenwood School	SU	Out of Compliance	In Compliance	
Snowshoe	SU	Out of Compliance	In Compliance	
Salmon Creek Trailer Court	SU	Out of Compliance	In Compliance	
Bay View Trailer Court	SU	Out of Compliance	In Compliance	
KB Sub. Water Service Assoc.	SU	Out of Compliance	In Compliance	
Grace Evangelical Lutheran	SU	Out of Compliance	In Compliance	
Chignik Lake	SU	Out of Compliance	In Compliance	
Russian Mission	SU	Out of Compliance	In Compliance	
Birchview Trailer Court	SU	Out of Compliance	In Compliance	
Wildwood Homes LLC	SU	Out of Compliance	In Compliance	
Brevig Mission	ST	Out of Compliance	In Compliance	
Denali Borough SD - Tri-Valley	SU	Out of Compliance	In Compliance	
Set Free Alaska Snodgrass	SU	No System	In Compliance	New system
Alpine View Subdivision	SU	No System	In Compliance	New system
Berry Bluff Community	SU	No System	In Compliance	New system
Kittiwake LLC	SU	No System	In Compliance	New system
Knik-Fairview CCS Early Learning Center	SU	No System	In Compliance	New system
Liberty Tax Building	SU	No System	In Compliance	New system
Winter Rose Multifamily Housing	SU	No System	In Compliance	New system
Badger Plaza	SU	No System	In Compliance	New system
Manh Choh Personnel Camp-Tok	SU	No System	In Compliance	System reclassified from TNC to NTNC
Denali Backcountry Lodge	ST	No System	In Compliance	System reactivated

Changes in Compliance for Small Untreated and Treated Water Systems from SFY23 to SFY24 Continued

System	Class	July 2023	July 2024	Comments
Lupine MOB LLC	SU	No System	Out of Compliance	New system
Valley View Tower	SU	No System	Out of Compliance	New system
Kivalina K-12 School	ST	No System	Out of Compliance	New system
Sportsman's Cove Lodge	ST	In Compliance	Out of Compliance	Operator turnover
Southeast Alaska Logging Camp	ST	In Compliance	Out of Compliance	Operator turnover
Twin Hills	SU	In Compliance	Out of Compliance	Operator turnover
Clark's Point	SU	In Compliance	Out of Compliance	Operator turnover
Adak	ST	In Compliance	Out of Compliance	Operator turnover
Peter Pan Seafood Port Moller	ST	In Compliance	Out of Compliance	Operator turnover
Chefornak Water	SU	In Compliance	Out of Compliance	Operator turnover
Town & Country Trailer Court	SU	In Compliance	Out of Compliance	Operator's certificate expired
Diomede Joint Utilities Water	ST	In Compliance	Out of Compliance	Operator turnover

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Appendix B: S_2TC Program Guidance Document

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Purpose

The Alaska Department of Environmental Conservation (DEC) System-Specific Training and Certification (S_2TC) Program provides an alternate means of assessing the competence of water system operators, in addition to the standard certification exam. Through the successful completion of specific training modules and associated exams, operators demonstrate that they have the knowledge, skills, and abilities required to operate the water systems under their control. Successful completion of the steps associated with the S_2TC Program results in the issuance of a system-specific certification in accordance with the Water and Wastewater Operator Certification and Training regulations (18 AAC 74).

Responsible Parties

There are five parties who are responsible for tasks at various stages throughout the administration of the S_2TC Program.

Operator – The operator is responsible for operating and maintaining the water system. The operator makes process control decisions that affect the quality and quantity of water. To legally perform these duties, the operator must hold certification at a level equal to or greater than the classification of the system under their control.

System Owner – The system owner is the entity responsible for ensuring that safe water is provided to system customers and that the water system operates in compliance with all applicable regulations. The system owner is responsible for designating a properly certified supervising operator for the water system and for providing the resources necessary for safe and compliant system operations.

Exam Proctor – The exam proctor is responsible for keeping exam materials secure and administering module exams in a secure, confidential manner.

Operator Certification Program – DEC is the designated State primacy agency for the Safe Drinking Water Act implementation. The Operator Certification Program (OpCert) is housed within the DEC's Division of Water and is responsible for classifying water systems and certifying operators and for implementing and enforcing the Water and Wastewater Operator Certification and Training Regulations, 18 AAC 74.

Technical Assistance Provider(s) – The technical assistance (TA) provider is responsible for issuing a written program referral for the operator, which documents support for the operator's participation in the Program and describes the operator's competency level, and for providing technical assistance as the operator works through the modules. The TA provider will generally be a Remote Maintenance Worker (RMW). However, the TA provider could also be an employee of another organization that provides technical assistance in the water and wastewater industry.

Program Process

The S_2TC Program includes the following six steps:

1. Determination of the operator's eligibility for the S_2TC Program
2. Identification of the appropriate training modules
3. Consensus among all responsible parties
4. Training modules review
5. Administration of module exams
6. Fees and certification

1. Determination of the Operator's Eligibility for the S_2TC Program

When determining an operator's eligibility for participation in the S_2TC Program, OpCert will consider:

- Whether the operator has attempted to attain certification through the standard exam and certification application process within the last 3 years.

- Whether the operator meets the eligibility requirements for the requested type and level of certification as delineated in 18 AAC 74.
- Whether the operator has received a TA provider referral, typically the community's assigned RMW.
- Whether the water system is in compliance with the requirements of 18 AAC 80, i.e., monthly operator reports are submitted to the Drinking Water Program as required and the water system is not on the DEC Drinking Water Program's Enforcement Targeting Tool (ETT) list, https://dec.alaska.gov/eh/dw/ett/, for any operator related violations.
- Whether the operator can create a line drawing that accurately outlines the basic components of the system.

The following steps must be followed for an operator to be considered for the S_2TC Program.

1. The system owner and/or operator must submit the following to OpCert:
    a. An S_2TC Application for Operator Certification and the required Program fees.
    b. A written request that the operator be considered for participation.
    c. A written referral from a TA provider, typically the community's assigned RMW, documenting support for the operator's participation in the Program and describing the operator's competency level.
2. OpCert will determine if an operator is eligible for participation based on the application, the written request from the system owner, the written referral from the TA provider, and the water system's compliance with 18 AAC 80.

Operators participating in the S_2TC Program must meet the following eligibility requirements[1]:

Water Treatment Level 1

[1] Education and experience substitutions are allowed under 18 AAC 74.050.

- High school diploma or GED.
    - If an operator does not possess a high school diploma or GED, they will need to undergo a practical evaluation conducted by a TA provider prior to participating in the S_2TC Program. The evaluation will demonstrate that the operator's knowledge of the system allows the State to waive the minimum education requirements for attaining certification.
- One year of water treatment operations experience at any level of system other than small untreated.
- Taken and failed the level 1 water treatment written exam at least twice, with one attempt within the past three years.
- Completion of the Introduction to Small Water Systems Course or an equivalent water treatment course approved by OpCert.

Water Treatment Level 2

- High school diploma or GED.
    - If an operator does not possess a high school diploma or GED, they will need to undergo a practical evaluation conducted by a TA provider prior to participating in the S_2TC Program. The evaluation will demonstrate that the operator's knowledge of the system allows the State to waive the minimum education requirements for attaining certification.
- Three years of water treatment operations experience at any level of system other than small untreated.
- If the operator holds a level 1 water treatment certification, they have taken and failed the level 2 water treatment written exam at least twice, with one attempt within the past three years, or
- If the operator does not hold a level 1 water treatment certification, they have taken and failed the level 1 water treatment written exam at least three times, with one attempt within the past three years.
- Completion of the Introduction to Small Water Systems Course or an equivalent water treatment course approved by OpCert.

- Completion of the Intermediate Water Treatment Training Course or an equivalent water treatment course approved by OpCert if a Water Treatment 1 certificate is held.

Water Distribution Level 1

- High school diploma or GED.
    - If an operator does not possess a high school diploma or GED, they will need to undergo a practical evaluation conducted by a TA provider prior to participating in the S_2TC Program. The evaluation will demonstrate that the operator's knowledge of the system allows the State to waive the minimum education requirements for attaining certification.
- One year of water distribution operations experience at any level of system.
- Taken and failed level 1 water distribution written exam at least twice, with one attempt within the past three years.
- Completion of the Introduction to Small Water Systems Course or an equivalent water distribution course approved by OpCert.

Water Distribution Level 2

- High school diploma or GED.
    - If an operator does not possess a high school diploma or GED, they will need to undergo a practical evaluation conducted by a TA provider prior to participating in the S_2TC Program. The evaluation will demonstrate that the operator's knowledge of the system allows the State to waive the minimum education requirements for attaining certification.
- Three years of water distribution operations experience at any level of system.
- If the operator holds a level 1 water distribution certification, they have taken and failed level 2 water distribution written exam at least twice, with one attempt within the past three years, or

- If the operator does not hold a level 1 water distribution certification, they have taken and failed the level 1 water distribution written exam at least three times, with one attempt within the past three years.
- Completion of an intermediate water distribution level 1/2 course or equivalent.

2. Identification of the Appropriate Training Modules

The intent of the S_2TC Program is to present the eligible operator with training material and module exams relevant to the system they operate. There are fifteen training modules and corresponding exams available through the S_2TC Program:

1. General Drinking Water and Operator Certification Regulations
2. Groundwater
3. Surface Water
4. Disinfection
5. Greensand Filtration
6. Direct Filtration
7. Water System Components and Electricity
8. Conventional Filtration
9. Circulating Distribution Systems
10. Distribution Systems
11. Bag/Cartridge Filtration
12. Corrosion Control
13. Fluoridation
14. Principles of Math
15. Chemical Feed Systems

For each water system, OpCert maintains information about the system components for the purposes of determining system classification. This information will serve as the basis for identifying the appropriate training modules. Additionally, as part of the S_2TC Application, the operator is required to create a line drawing of their system and submit the drawing to OpCert. This requirement is to ensure that the operator is aware of the components

associated with their system. Based on these two elements, OpCert will determine the curriculum of required modules and compile them for delivery to the operator.

3. Consensus Among all Responsible Parties

It is important that all responsible parties acknowledge the obligations associated with participating in the S_2TC Program. The system owner, operator, and exam proctor are required to attend an orientation meeting facilitated by DEC staff to review roles, responsibilities, and exam deadlines. At this meeting, the exam proctor will be given all modules and module exams to secure for the duration of the Program. At the conclusion of the orientation meeting, all responsible parties are required to acknowledge their understanding of Program details by signing acknowledgment forms.

4. Training Modules Review

At the orientation meeting, the operator will determine the order in which they want to review the assigned training modules and the operator will be given the first training module of their choosing. The operator is responsible for reviewing each training module by a set deadline. The maximum amount of time allotted for each module will generally be no more than thirty days from the receipt of the module to the administration of the module exam.

The system owner and operator are responsible for tracking the operator's progress and for ensuring that all modules are reviewed within the allotted time.

The TA provider is responsible for assisting the operator as they work to complete each module review. This assistance with understanding the concepts of a module can be offered in the form of onsite or telephonic assistance, or DEC staff can provide additional resources such as videos to reinforce module concepts.

The operator will **not** receive continuing education credit for completing the training modules.

5. Administration of Module Exams

There is a 20-question module exam associated with each training module. The operator is allotted one hour for each module exam. The operator moves to the module exam phase as soon as an individual module is completed. Module exams are administered closed-book with no assistance provided by the exam proctor or TA provider. The operator is allowed to use a formula sheet provided by OpCert and a nonprogrammable calculator.

The operator will work within the timeline agreed upon during the orientation meeting. As discussed in part 4 above, the operator will generally have no more than 30 days from receipt of a module to take the corresponding module exam. The operator is responsible for scheduling each exam with the exam proctor within the required deadline. Once the operator completes a module exam, the exam proctor will email the exam to OpCert for grading and dispense the next training module to the operator. The operator will be informed whether they have passed or failed the exam within five business days of taking the exam.

The operator will have two opportunities to pass each module exam. If an operator fails a module exam, OpCert will provide a second module exam to the exam proctor.

After administration of approximately half of the required modules, the operator will be given an opportunity during a 15-day re-examination period to retake any exams that were not passed in the initial attempt. Although the operator may choose to schedule a re-exam(s) with the proctor at any point after receiving notice of a failed exam, all re-exams must be completed by the end of the re-examination period. If all exams are passed, the operator begins work on the remaining modules. After completion of the remaining modules, if any of these modules were not passed, a second 15-day re-examination period begins.

The operator is required to complete all training modules, exams, and any re-exams within the time allotted for completing the curriculum. This program schedule will be discussed and agreed upon during the orientation meeting. If

circumstances arise that require additional time for curriculum completion, the operator must contact the OpCert Program to request an extension. Extensions may be approved at the discretion of the OpCert Program.

OpCert will reimburse the exam proctor $175 for the time associated with administering all the required module exams to an individual operator. Additional compensation required by the exam proctor will be the responsibility of the system owner. If an operator fails to complete all exams in a curriculum but has taken at least one, the Operator Certification Program will reimburse the exam proctor. The exam proctor is reimbursed at the conclusion of the S_2TC process.

6. Fees and Certification

The fees for the S_2TC Program total $250 and include:

- $100 application fee
- $150 examination fee

Additional costs may be incurred, as it will be the responsibility of the system owner to compensate the exam proctor for administering the exams if the exam proctor desires more than the reimbursement amount provided by OpCert ($175). After successful completion of all module exams, the operator's temporary certificate will be replaced with a certificate defined by the restrictions described in the following paragraph.

OpCert will issue a system-specific certification to the operator through the Alternative Method of System Supervision (AMOSS) provision of 18 AAC 74. The certification will identify the specific water system that the operator is certified to operate. This certification is not transferable and may not be used to legally operate any other public water system. The expiration date of the certificate is determined by the date of the last passed module exam. Certificate renewal requirements are set out in 18 AAC 74.810 and apply to all certificates issued through the S_2TC Program. The operators issued certificates under this program are subject to 18 AAC 74.830. Additionally, an annual review of the system's

compliance with the AMOSS plan will be conducted by OpCert and the Governor's Water and Wastewater Works Advisory Board.

Certificate renewal requires the operator to actively obtain the continuing education units necessary for renewal. Otherwise, the system-specific certificate becomes invalid, and the operator must follow traditional means for regaining certification, i.e., taking and passing applicable standardized Water Professionals International exams and applying for conventional operator certification. Most importantly, the operator would no longer be eligible to regain certification through the S_2TC Program.