



Operator Licensing Requirements Across the United States

This project was commissioned by the American Water Works Association (AWWA) Workforce Strategies Committee and funded by the AWWA Technical and Educational Council.

*Report prepared by Jeff Oxenford, Oxenford Consulting LLC and Jim Ginley, Jim Ginley Consulting LLC
February 2018*

 **American Water Works Association**

Dedicated to the World's Most Important Resource®

Table of Contents

EXECUTIVE SUMMARY.....	1
INTRODUCTION	2
METHODS	4
RESULTS	5
Table 1: Summary of special aspects of operator certification.....	8
Figure 1: Map of Sources for NTKC for 50 States – Nov. 2017	9
CONCLUSIONS.....	11
REFERENCES.....	13
APPENDIX I – States Tables.....	14
APPENDIX II – General Guidance for Operators for Identifying and Confirming Certification Requirements by State	120

ACKNOWLEDGEMENTS

This project was commissioned by the American Water Works Association (AWWA) Workforce Strategies Committee and funded by the AWWA Technical and Educational Council.

The authors thank Alex Gerling, the project manager for AWWA for her support and encouragement.

The authors also thank for their ideas, suggestions, and review the Project Advisory Committee that consisted of

- Stuart Karasik, Training Excellence
- Pieter Van Ry, Parker Water and Sanitation
- Chad Weikel, AWWA

EXECUTIVE SUMMARY

Ensuring a pool of qualified and certified operators is essential in addressing the workforce needs of water utilities. A significant challenge for AWWA and other organizations that provide resources and training is that operator certification requirements vary by state. To assist in planning efforts, this project catalogued licensing requirements for water and wastewater operators across all 50 states to determine opportunities for and barriers to cross-training. The project also identified need-to-know criteria (NTKC) provided by states to help operators prepare for certification examination and identified states that used Association of Boards of Certification (ABC) NTKC criteria, developed their own criteria, or had a combination of two.

Requirements are summarized on a state by state basis. This project catalogued four key components of operator certification that can impact training program development. These include

- Classification of operators, facilities, and systems
- Qualifications to achieve each grade or level
- Training and experience requirements needed to maintain/renew certification
- Are there established NTKC? What is the source?

The review covered operator certification programs for

- Water treatment
- Distribution systems
- Wastewater treatment
- Collection systems

The state programs were analyzed to identify commonalities and significant differences. While all addressed EPA's key elements for operator certification, the language and how they approached each of these elements varied significantly. For each state, a one-page summary table for water and another one-page table for wastewater programs were developed.

Based on the results of the study the following recommendations were provided:

- Websites for state operator certification program vary significantly. Recommendations are provided on key elements that should be included on websites.
- Operator certification requirements are in state statues and would be very difficult to change. To aid operators in obtaining reciprocity, transparency of certification requirements would aid states in evaluating reciprocity requests.
- For operators seeking reciprocity, the opportunity to be granted reciprocity is available in almost every state (both type and level of certification). However, the process takes time, effort, and planning.
- AWWA needs to increase promotion of the Water Systems Operations (WSO) series. This reference material is the most current resource and aligns with the new Association of Boards of Certification (ABC) NTKC.
- The workforce in the water industry is changing. Future challenges may require that operator certification requirements to be revisited.

INTRODUCTION

Ensuring a pool of qualified and certified operators is essential in addressing the workforce needs of water utilities. A significant challenge for AWWA and other organizations that provide resources and training is that operator certification requirements vary by state. To assist in planning efforts, this project catalogued licensing requirements for water and wastewater operators across all 50 states to determine opportunities for and barriers to cross-training. The project also identified NTKC provided by states to help operators prepare for certification examination and identified states that used ABC NTKC criteria, developed their own criteria, or had a combination of two.

Operator Certification Criteria

Requirements for operator certification are specified by the state. Each state has the authority to develop their own requirements for operator certification. The 1996 Amendments to the Safe Drinking Water Act (SDWA) directed the United States Environmental Protection Agency (EPA) to develop information on recommended operator certification requirements. In February 1999, EPA published *Final Guidelines for the Certification and Recertification of Operators of Community and Non-Transient Non-Community Public Water Systems*, which provided nine baseline standards for state operator certification programs. States were required to implement an operator certification program by February 2001 that met the federal guidelines or lose 20 percent of their Drinking Water State Revolving Fund allotment.

The guidelines required that states must require the following for an operator to become certified:

- Take and pass an exam that demonstrates that the operator has the necessary skills, knowledge, ability, and judgement as appropriate for the classification.
- Have a high school diploma or a general equivalency diploma (GED). States may allow experience and/or relevant training to be substituted for a high school diploma or GED.
- Have the defined minimum amount of on-the-job experience for each appropriate level of certification. The amount of experience required increases with each classification level. Post high school education may be substituted for experience. Credit may be given for experience in a related field (e.g., wastewater).
- The state must establish training requirements for renewal based on the level of certification held by the operator. States must require all operators including grandparented operators to acquire necessary amounts and types of state approved training. States may determine other requirements as deemed necessary. States must have a fixed cycle of renewal not to exceed three years.

In developing the rule, EPA stated that they believed that states were best positioned to design and administer the test that measures the knowledge, skills, ability, and judgement of an operator for a particular classification level. EPA believed that the type of operator training necessary for each classification level in each state is best determined by the state. The final guidelines did not include specific training requirements; however, EPA evaluated state training programs as part of its initial and annual review and approval of state operator certification programs.

A significant challenge has been that the majority of states already had functioning operator certification program prior to the development of guidance by EPA in 1999. These programs were statutorily underpinned, therefore making changes difficult. Recognizing this, the 1986 amendments allowed a state that has an operator certification program,

“to enforce such program in lieu of the guidelines under subsection (a) of this section if the State submits the program to the Administrator within 18 months after the publication of the guidelines unless the

Administrator determines (within nine months after the State submits the program to the Administrator) that such program is not substantially equivalent to such guidelines. In making this determination, an existing State program shall be presumed to be substantially equivalent to the guidelines, notwithstanding program differences, based on the size of systems or the quality of source water, providing the State program meets the overall public health objectives of the guidelines. If disapproved, the program may be resubmitted within 6 months after receipt of notice of disapproval.”

State programs have been reviewed by ABC (2007) and EPA (2016). There were vast differences between state programs.

For wastewater operators, the requirements are much the same as their drinking water counterparts. Since the enactment of the Clean Water Act in the early 1970's and the consequent onset of substantial improvements to the wastewater treatment facilities across the country (through the Construction Grants Program), one of the most important aspects of protecting our nation's water quality is having a workforce of experienced, well-trained, and properly certified operators to operate these wastewater treatment systems.

Both through the development of a network of training centers across the country and the adoption of appropriate state statutes and regulations, operators for municipal wastewater treatment (and pretreatment) facilities have been mandated to show they are able to perform their duties without endangering public health or the environment and have been provided the training and certification process to meet this mandate.

As with drinking water treatment and distribution, state regulatory agencies certify the technical competency of operators of municipal wastewater treatment/pretreatment facilities and collection systems. All 50 states have requirements for operators of wastewater treatment facilities. For collection system operators, the majority of the states have established similar regulations. However, in our review, we were unable to identify collection system requirements in some states and in others certification was voluntary or as a component of the wastewater treatment certification.

To determine operator competency, the state agencies must evaluate whether applicants for certification possess the necessary skills, knowledge, ability, and judgment to properly operate and maintain the facilities entrusted to their care. Accordingly, applicants for certification must meet specific education, experience, and examination requirements to be certified. Most state statutes have established some form of operator certification board, and this group collaborates with the respective state agency to ensure that the certification exams and questions are validated and appropriate for the certification levels that match the specific role(s) in either wastewater treatment or collection system operations. Depending on the state, the certification exams are offered on a regular schedule either at locations around each state and/or in many cases on-line. Some states have their own certification process and others participate in an established preparation and examination process like that provided by the ABC.

Need-to-Know Criteria

NKTC are descriptions of the knowledge and skills needed by operators to perform their duties. NKTC serves as an aid for developing exam questions and for operators in knowing what they must study to pass the exam. What constitutes the NTKC is specified at the state level. Much like the operator certification criteria, NTKC varies quite significantly between states.

ABC is one organization that is attempting to standardize the industry NTKC and examination. ABC is a voluntary program. In 2012, ABC published revised NTKC (2017) for water treatment, distribution system, wastewater treatment, and collection system operators. To develop these criteria, ABC went through an extensive process that included a job analysis of more than 1192 individuals. Job tasks and capabilities needed were identified and

ranked based on frequency of performance and seriousness of inadequate or incorrect performance. Results were analyzed by a committee using weighting criteria to determine appropriate material for examination. For essential tasks and required capabilities the knowledge needed and ability to conduct were identified. The level of knowledge (i.e., comprehension, application, analysis) required for each task was also identified. AWWA's Water Systems Operations (WSO) (2017) manuals are aligned with ABC's NTKC. Developed by AWWA staff in consultation with industry experts the manuals provide a study reference for operators.

States that work with ABC have the option to

- Use ABC's test and NTKC
- Develop their own NTKC
- Modify the test or NTKC to meet their state needs
- Use ABC materials as references, but develop their own test and NTKC
- Use ABC materials for both water and wastewater programs, or only one program and not the other

A significant number of states do not use ABC materials and have developed their own test and NTKC. This study will evaluate state specific NTKC and how it relates to ABC's criteria.

Reciprocity

A challenge of recruiting new operators is that an operator license is only valid in the state in which it is issued. EPA requirements do not address reciprocity and reciprocity decisions are left to state discretion. This study evaluated reciprocity requirements for each state.

METHODS

This project cataloged four key components of operator certification that can impact training program development. These include

- Classification of operators, facilities, and systems
- Qualifications to achieve each grade or level
- Training and experience requirements needed to maintain/renew certification
- Are there established NTKC? What is the source?

Our review covered operator certification programs for:

- Water treatment
- Distribution systems
- Wastewater treatment
- Collection systems

States may have additional certification programs such as laboratory, cross-connection control, biosolids land disposal, and/or industrial treatment. These were not addressed in this project.

A variety of sources were used in producing this catalog. Key resources include

Two reports on operator certification programs:

- USEPA 2016. Summary of State Operator Certification Programs (*addressed water treatment and distribution systems only*)

- ABC, 2007. U.S. Environmental Certification Programs (*addressed both water and wastewater, distribution and collections*)

A web-based search for state specific

- Water and wastewater operator certification program websites
- Legislation for operator certification programs (where available)

Highlights from state programs were captured and provided in a one-page water and one-page wastewater summary table (see Appendix 1). The tables are only summaries of key points of the state programs. More details can be found on state websites and in enabling legislation.

Accompanying each table are links to the state program websites and general information on reciprocity. Reciprocity information is summarized to discuss key differences between states. General program requirements such as, “must submit an application” and “must pay a fee” are not included as this is common to all states with reciprocity requirements.

NTKC for states that publish their own NTKC were also evaluated. Interviews were conducted with state certification office program leads and the following questions were asked:

- (1) How did you develop your NTKC for operator certification?
- (2) Who is responsible for maintaining/upgrading them over time?
- (3) Why do you have your own criteria (as opposed to using those from ABC or another source)? What is unique about yours?
- (4) How is it working for you? What's going well? What could be improved?
- (5) How can AWWA help?

RESULTS

Tables for water and wastewater operation certification requirements are provided in Appendix 1. Requirements are summarized on a state by state basis. For each state, this is a one-page table for water and another one-page table for wastewater programs.

The state programs were analyzed to identify commonalities and significant differences. While all addressed EPA’s key elements for operator certification, the language and how each of these elements was approached varied significantly. The key findings for the four categories evaluated in this study are listed below.

Facility classification

In the majority of cases, the level or grades for operator certification were tied to classification of the system. Below are the findings regarding system classification:

Water Treatment

- The majority of classification systems are based on a point scale, with points awarded for size of system, water source, and treatment process types. The amount of points awarded, and the components of the scales vary substantially between states.

- Classification in a few states is based on size alone, or on size and water source (i.e., surface or groundwater).
- Most states have a small or very small system classification.

Distribution System

- Classification of distribution systems is typically based on the population served.
- A few states classified distribution systems based on complexity (number of pressure zones, etc.).
- The vast majority of states (46 of 50) have separate operator certification requirements for distribution systems. Four states did not have a specific distribution system operator classification. In these cases, distribution and treatment topics questions were included in the same exam.

Wastewater Treatment

- There is much greater variation in how wastewater treatment systems are classified as opposed to water treatment.
- While the majority of system classifications are based on complexity of wastewater treatment (e.g., primary, secondary, tertiary levels, and specific unit processes), the rating criteria and point scales varied significantly between states.
- Some states mirror the approach used for water treatment.

Collections Systems

- Twenty-eight of 50 states have formal collection system requirements. Seven states have voluntary programs.
- No reference to a collection system certification was found for 15 states.
- In some cases, collection system questions were included in the wastewater treatment exam.
- Classification of collection systems varied significantly by state. Some states had only one classification while other states range from two to five classes. Classification was based on population served, number of connections, volume collected, and/or complexity of the collection system.

Certification requirements

- All states have certification requirements that align with their classification categories and levels.
- A few states require endorsements for specific advanced treatment processes.
- One state (Delaware) has a single, basic level of certification with endorsements for more complex processes.
- Most states require as a minimum a high school diploma (HSD) or general equivalency diploma (GED). A few states mention “or pass a written exam” (with no degree).
- In most states, higher levels of certification require progressively more experience and/or education requirements.
- In many cases, education can be substituted for experience. However, this varies quite a bit from state to state.
- Higher levels of education (e.g., associate’s or bachelor’s degrees) were required for higher levels of certification in some states. In most cases, course work needed to be in related science or engineering areas. Specific classes that would be accepted were mentioned in a few states.
- Operators in responsible charge (ORC) are required to be certified at one level higher than the facility classification in some states.
- A few states have Operator in Training (OIT) certifications.

Renewal

- Renewal cycles varied from every one to five years. Three-year renewal requirements were most common.
- Continuing education is required by most states for renewal of water treatment and distribution system licenses. Two states did not require continuing education for renewal of wastewater treatment licenses.
- In most cases, more continuing education was required for higher levels of certification.
- A total of 10 training hours per year for the highest level of certification was commonly applied.
- Some states required a portion of the continuing education to be in-state managed (identified) course work.

Need-to-Know Criteria

A range of NTKC and requirements are available. These are shown in **Figure 1** and include the following:

- Direct reference to ABC's NTKC
- State's own NTKC requirements
- A combination of state and ABC NTKC
- Mix of ABC, state, and/or None/Unknown NTKC not identified.

Table 1 provides a summary of special aspects of operator certification. These include

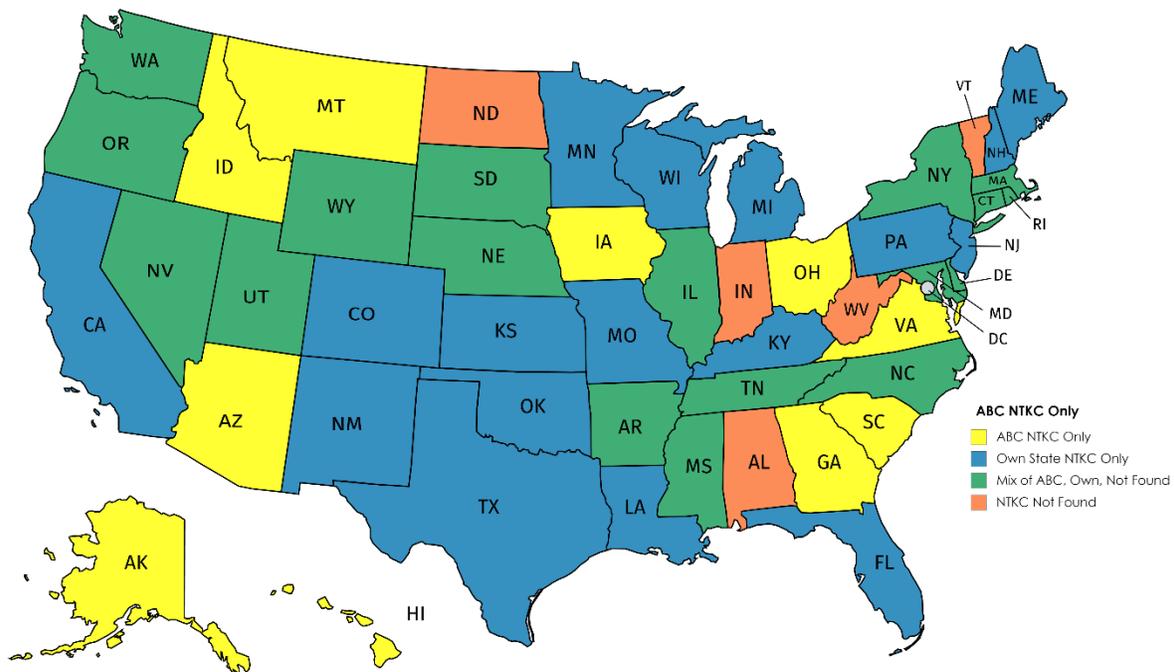
- **Reciprocity** – Does the state have some form of reciprocity with other states?
- **Certification additional to treatment** – Is there a separate certification for water distribution systems and wastewater collection systems?
- **Established NTKC** – Is there some form of NTKC reference on the state's water and wastewater certification program's websites? Are they ABC's NTKC or were they state developed?

Table 1: Summary of special aspects of operator certification

State	Reciprocity		Certification in addition to Treatment		Established Need-to-Know Criteria					
	Water	Wastewater	Distribution	Collection Systems	ABC		Own criteria		No or unsure	
					W	WW	W	WW	W	WW
1. AL	YES	YES	YES	YES					X	X
2. AK	YES	YES	YES	YES	X	X				
3. AZ	YES	YES	YES	YES	X	X				
4. AR	YES	YES	YES	NO	X					X
5. CA	YES	YES	YES	YES			X	X		
6. CO	YES	YES	YES	YES			X	X		
7. CT	YES	YES	YES	Voluntary			X			X
8. DE	YES	YES	NO	NO				X	X	
9. FL	NO	NO	YES	NO			X	X		
10. GA	YES	YES	YES	YES	X	X				
11. HI	YES	YES	YES	NO	X	X				
12. ID	YES	YES	YES	YES	X	X				
13. IL	YES	YES	YES	YES				X	X	
14. IN	YES	YES	YES	NO					X	X
15. IA	YES	YES	YES	NO	X	X				
16. KS	YES	YES	YES	NO			X	X		
17. KY	YES	YES	YES	YES			X	X		
18. LA	YES	YES	YES	YES			X	X		
19. ME	YES	YES	YES	NO			X	X		
20. MD	YES	YES	YES	YES	X					X
21. MA	YES	YES	YES	Voluntary		X	X			
22. MI	YES	YES	YES	NO			X	X		
23. MN	YES	YES	NO	YES			X	X		
24. MS	YES	YES	NO	Voluntary				X	X	
25. MO	YES	YES	YES	NO			X	X		
26. MT	YES	YES	YES	YES	X	X				
27. NE	NO	YES	YES	NO		X	X			
28. NV	YES	YES	YES	Voluntary	X	X	X	X		
29. NH	YES	YES	YES	NO			X	X		
30. NJ	YES	YES	YES	YES			X	X		
31. NM	YES	YES	YES	YES			X	X		
32. NY	YES	YES	YES	Voluntary		X	X	X		
33. NC	YES	YES	YES	YES				X	X	
34. ND	YES	YES	YES	YES					X	X
35. OH	YES	YES	YES	YES	X	X				
36. OK	NO	NO	YES	YES			X	X		
37. OR	YES	YES	YES	YES	X	X	X			
38. PA	YES	YES	YES	YES			X	X		
39. RI	YES	YES	YES	NO	X	X		X		
40. SC	YES	YES	YES	Voluntary	X	X				
41. SD	YES	YES	YES	YES	X	X		X		
42. TN	YES	YES	YES	YES		X	X	X		
43. TX	YES	YES	YES	YES			X	X		
44. UT	YES	YES	YES	YES		X	X			
45. VT	YES	YES	YES	Voluntary					X	X
46. VA	YES	YES	NO	NO	X	X				
47. WA	YES	YES	YES	Voluntary	X	X		X		
48. WV	YES	YES	YES	YES					X	X
49. WI	YES	YES	YES	YES			X	X		
50. WY	YES	YES	YES	YES	X	X	X	X		
TOTALS 50	YES – 47 NO -- 3	YES – 48 NO -- 2	YES – 46 NO -- 4	YES – 28 NO – 15 VOL – 7	18	21	26	28	9	8

Figure 1: Map of Sources for NTKC for 50 States – Nov. 2017

Color	Code	Total	Percent
Yellow	ABC NTKC Only for Water and Wastewater	10	20
Blue	Own State NTKC Only for Water and Wastewater	17	34
Green	Mix of ABC, Own, and Not Found	18	36
Orange	NTKC Not Found or Cited	5	10



Created with mapchart.net ©

States that develop their own NTKC

An additional study was conducted to evaluate states that have their own NTKC. The following is a summary of the responses to a set of key questions that was posed to the states that were contacted.

(1) How did you develop your NTKC for operator certification?

- In most cases the states develop the NTKC in consultation with subject matter experts that could consist of certified operators, sanitarians, engineers, and academics. The make-up of subject matter experts varied with some states, emphasizing participation of subject matter experts and other sanitarians or academics.
- Most efforts to establish test questions and NTKC are led by state contacts. Some employed a consultant to develop the test questions and develop the NTKC.

- Some states have a panel of subject matter experts that meet on a regular basis to review and update test questions.
- One state (CA-drinking water) employed a psychometrician to guide the process of developing test questions.
- One state (CA-wastewater) has the NTKC defined in its state's statutes.

(2) Who is responsible for maintaining/upgrading them over time?

- The state certification programs are responsible for maintaining and upgrading test questions and NTKC.
- Some states have a panel of subject matter experts that meet on a regular basis to review and update test questions.
- Frequency of question review varies from a formal "we meet every quarter or every year" to an informal "we meet on occasion, as needed."
- A number of comments were given that because of staffing constraints, the review is behind schedule.

(3) Why do you have your own criteria (as opposed to using those from ABC or another source)? What is unique about yours?

- The most common comment was that the state can better tailor the questions to meet the needs of the state. For example, some technologies may not be used that are addressed in a national exam.
- Regulatory questions were commonly mentioned. States want the flexibility to include state and local rules and regulations.

(4) How is it working for you? What's going well? What could be improved?

- In most cases, states are very satisfied with their programs.
- In Kansas, the regulations are being updated to distinguish more clearly groundwater versus surface systems.
- Lack of resources and support for the certification program office was identified as something that could be improved.

(5) How can AWWA help?

- In all states with their own NTKC, a strong relationship with the respective AWWA section was mentioned. Relationships with other partners such as the Water Environment Federation (WEF) and its network of management associations, state affiliates of the National Rural Water Association (NRWA), and the Rural Community Assistance Program (RCAP) was also mentioned.
- State contacts were very aware of the ABC NTKC and in general, explained that they "address basically the same material." Therefore, manuals and training that address the ABC NTKC should meet the states' needs.
- Key gaps in the training provided to operators continue to be operator math and understanding the regulations that apply.
- Some states offered concerns about the general availability/prospective pool of qualified operators. This was especially apparent in the physically/geographically large Midwestern and Western states that also have smaller overall general populations from which to find prospective operators.

CONCLUSIONS

Identifying state operator certification requirements is very difficult. Requirements vary substantially between the states and how this information is communicated through state websites is also different. Based on this review, we recommend that states should make the following information clearly available to operators on their websites:

- Where to take the test and how/when the test is offered — Include a link to the application form and/or the organization that is offering the test.
- Requirements to be certified – Include education and experience requirements.
- System classification and grades of certification required.
- Renewal and continuing education requirements.
- What to study for the exam, the NTKC and/or key reference(s).
- Where to get training.
- A link to state statutes if more information is needed.

While we agree that reciprocity is an important issue, the study clearly identified that operator certification requirements are in state statutes and would be very difficult to change. This will most likely not change in the short term. To aid operators in obtaining reciprocity, transparency of certification requirements (certification classes, requirements to take the exam, and NTKC) would aid states in evaluating reciprocity requests.

From the perspective of the operator seeking reciprocity, the opportunity to be granted reciprocity is available in almost every case (both type and level of certification). Though it appears that all the states have substantially different requirements, in practice the requirements are largely the same from state-to-state. The most confusing and often intimidating part is that the information is not presented the same way. As a result, the reciprocity process takes time and effort and planning, and it may be a bit different everywhere you go. It will require a concerted effort to do the research, find and complete the right forms, and get things done properly. Bottom line – reciprocity is widely available – just be prepared to do the work needed to get it.

Reciprocity also presents additional opportunities for consideration.

- In states that have a small or shrinking pool of operators and need to attract operators from other states, looking to recruit operators from states with similar requirements and NTKC makes sense.
- This is further supported and facilitated by states that share a common link to ABC. Although that does not eliminate the leg work needed to make reciprocity happen, it could help make the move to another state more consistent and perhaps a bit easier.
- For individuals entering the sector – especially veterans – the clearer and more consistent the requirements the better; this applies to both reciprocity and NTKC.

References recommended for operators to study for taking an examination varied substantially between states. The following are some findings to consider:

- The most commonly referenced training manuals were the California State University manuals (commonly referred to as the Sacramento manuals) last revised in 2005.
- The AWWA WSO Series – while recommended by some states, in many states it was not mentioned or identified as an additional resource (lower in the list).
- In some states, AWWA sections are leading the effort in providing operator training. In the majority, other organizations are identified as the key trainers. AWWA's Water Treatment e-learning courses are rarely mentioned.

- Even though many states have their own NTKC, these criteria are very similar to ABC; aligning future training resources with ABC NTKC could help meet the needs of operators in all states. The biggest need for customized information will be around state regulatory requirements.
- Operator math continues to be an issue even with existing resources. Additional research is needed on how to help operators with math.

AWWA needs to increase promotion of the WSO series. This reference material is the most up to date resource and aligns with the most recent ABC NTKC. As shown in this study, states that use their own NTKC, aligning future training resources with ABC NTKC could help meet the needs of operators in all states.

It is commonly recognized that the workforce in the water industry is changing. An ongoing Water Research Foundation project #4663, Workforce Skills of the Future, has identified future challenges that may require that operator certification requirements to be revisited. These include

- The millennial generation will be more mobile. They will move between jobs more frequently (every three to five years) and may move across state boundaries. This may impact the number of applicants for reciprocity. Also with years of experience requirements or sequential certification, the pool of experienced applicants may decrease.
- Continuing education requirements for certificate renewal are almost always time based (i.e. # of hours). Recent trends in training show a shift toward customizable e-learning and on-demand learning as opposed to classroom. Students will be able to move through materials at their own pace with results based on learning as opposed to time.
- The type of work for an operator is changing. Automation and digital technologies are requiring operators to be able to do more with data. Already struggling with math, this may increase educational needs for operators. Also, the rapid speed of change in technology may require operator duties to change rapidly. Will exams also be able to keep pace?

REFERENCES

AWWA (2017). Water System Operations. <https://www.awwa.org/publications/handbooks/water-system-operations.aspx>

Association of Boards of Certification (2007). U.S. Environmental Certification Programs.

Association of Boards of Certification (2017). Need-to-Know Criteria.
http://www.abccert.org/testing_services/need_to_know_criteria.asp

USEPA (1999). Final Guidelines for the Certification and Recertification of Operators of Community and Non-Transient Non-Community Public Water Systems.

USEPA (2016). "Summary of State Operator Certification Programs."

APPENDIX I – States Tables

Water – Alabama			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Grade I - Water distribution systems</p> <p><u>Water Treatment</u> Grade II - Basic groundwater source (treatment including aeration and pressure filtration). Grade III - Advanced groundwater (treatment using flocculation & clarifier). Grade IV - Surface water source or groundwater source under the influence</p>	<p>Applicants must score ≥ 70 percent on written exam.</p> <p>Minimum experience required:</p> <p>Grade I: 12 months Grade II: 18 months in a Grade II facility or 24 months combined Grade I, and II, III, or IV experience Grade III: 24 months in a Grade III facility or 36 months combined Grade II, III, or IV experience Grade IV: 24 months in a Grade IV facility</p> <p>Approved training programs, classes, or seminars may substitute for up to 12 months of experience.</p> <p>Operator Intern title applies to people that have successfully passed examinations but have not achieved the required experience.</p>	<p>Certificates must be renewed every 3 years.</p> <p>Operators must complete 24 continuing education hours (CEH), per certificate over the 3-year period.</p>	<p>Exams are not standardized national exams.</p> <p>No NTKC is provided.</p> <p>ADEM does not endorse or formally approve exam trainers. However, ADEM does provide a list of trainers familiar with Alabama's exam classification.</p>

Programs and Website: Alabama Department of Environmental Management (ADEM) - <http://www.adem.state.al.us/programs/water/opcertification.cnt>

Reciprocity –Certificates may be issued in a comparable classification to a person who holds a current certificate from another state by examination, provided the requirements of that state are comparable to or higher than those of the department. Reciprocity will only be granted to operators applying from states that reciprocate with the department.

Wastewater – Alabama			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> 1(C)- All sizes</p> <p><u>Wastewater Treatment</u> Grade I - Wastewater treatment lagoon, All sizes</p> <p>Grade II - Trickling filter and/or biological contactor (TF/BC) or activated sludge process process plant (AS) , Size <1MGD</p> <p>Grade III - TF/BC 1-15 MGD Or AS 1-5 MGD</p> <p>Grade IV - TF/BC >15 MGD or AS > 5 MGD</p>	<p>Applicants must score ≥ 70 percent on written exam.</p> <p>Grade 1: WWT or I(C) – 12-month experience Grade 2: 18 months Grade III: 36 months (combined) 24 months in Grade III or IV. Grade IV: 24 in Grade IV or 36 months in III and IV.</p> <p>12 months experience = 1900 hours</p> <p>Approved training programs, classes, or seminars may substitute for up to 12 months of experience.</p> <p>Training 15 Hours– 3 months experience 30 Hours–6 months experience 45 Hours– 9 months experience 60 Hours–12 months experience</p>	<p>Certificates must be renewed every 3 years.</p> <p>Operators must complete 24 continuing education hours (CEH), per certificate over the 3-year period.</p>	<p>Exams are not standardized national exams.</p> <p>No NTKC is provided.</p> <p>ADEM does not endorse or formally approve exam trainers. However, ADEM does provide a list of trainers familiar with Alabama's exam classification.</p>

Program and Website: Alabama Department of Environmental Management (ADEM) - <http://www.adem.state.al.us/programs/water/opcertification.cnt>

Water – Alaska			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Based on number of service connections. Level 1 – 15-500 connections Level 2 – 501-5,000 Level 3 - 5,001 – 15, 000 Level 4 – More than 15,000</p> <p>May be classified one class higher if five or more pressure zones and/or if water is circulated to prevent freezing.</p> <p><u>Water Treatment</u></p> <p>System points are assigned according to size, source water, pretreatment, adjustment and corrosion control, and types of treatment processes</p> <p>Operator Levels 1-4 and provisional</p> <p>Small Untreated or Small Treated Systems that serve fewer than 100 connections or fewer than 500 people.</p>	<p>All operators must have an HSD or GED, pass an Association of Boards of Certification (ABC) exam</p> <p>Experience required: Provisional: 3 months Level 1: 1 year Level 2: 3 years Level 3 4 years, 1 years additional education (DS), 2 years (Treatment) Level 4: 6 years, 1 additional years education, 4 years (treatment)</p> <p>Certain experience may be substituted for education and certain levels of education can be substituted for experience.</p>	<p>Certification is valid for 3 years beginning on January 1 of the year of issue.</p> <p>Ten hours of approved training equals one Continuing Education Unit (CEU).</p> <p>The number of CEU’s that each level of operator must complete during the 3-year period are as follows:</p> <p>Small, Untreated: 0.5 CEU Small, Treated: 1 CEU Provisional or Class Level 1-4: 3 CEUs</p>	<p>Uses ABC's 2012 New Standardized Exam Need-to-Know Criteria."</p> <p>Recommends studying the Alaska Drinking Water Regulations as opposed to the Federal Regulations</p> <p>The Operator Training and Certification Section of the Alaska Department of Environmental Conservation maintains an operator lending library.</p>

Program and Website - Alaska Department of Environmental Conservation, Division of Water - <https://dec.alaska.gov/Water/OPCert/index.htm>

Reciprocity considered on a case by case basis, evaluating experience/education requirements, exam taken, education, and operator experience. OpCert does not grant reciprocity to operators from states that deny reciprocity to Alaskan operators. If you passed an ABC standardized exam within the past three years, but your state’s program doesn’t consider reciprocity with Alaska, OpCert may issue certification based on your education and operator experience. If you hold PO certification through ABC, Alaska OpCert will issue certification based on your education and operator experience.

Wastewater – Alaska			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Based on number of service connections. Level 1 – 15-500 connections Level 2 – 501-5,000 Level 3 - 5,001 – 15, 000 Level 4 – More than 15,000</p> <p>Collection systems with 15 or more main line lift stations will be classified at one class higher</p> <p><u>Wastewater Treatment</u> System points are assigned according to size, design capacity, source water, and complexity of treatment.</p> <p>Wastewater Stabilization Pond and Wastewater Treatment Class 1, 2, 3, or 4</p> <p>Small Untreated or Small Treated – Systems that serve fewer than 100 connections or fewer than 500 people.</p>	<p>All operators must have an HSD or GED, pass an Association of Boards of Certification (ABC) exam Experience required: Level I: 1 year Level II: 3 years Level III: 4 years, 1 years additional education (Collection), 2 years (Treatment) Level IV: 6 years, 1 additional year education (Collection), 4 years (treatment)</p> <p>Certain experience may be substituted for education and certain levels of education can be substituted for experience.</p>	<p>Certification is valid for 3 years beginning on January 1 of the year of issue.</p> <p>Ten hours of approved training equals one Continuing Education Unit (CEU). The number of CEU's that each level of operator must complete during the 3-year period are as follows:</p>	<p>Uses ABC's 2012 New Standardized Exam Need-to-Know Criteria. The Operator Training and Certification Section of the Alaska Department of Environmental Conservation maintains an operator lending library. Wastewater Stabilization Pond Correspondence Course and Wastewater Stabilization Pond (WWSP) Study Guide</p>

Program and Website - Alaska Department of Environmental Conservation, Division of Water - <https://dec.alaska.gov/Water/OPCert/index.htm>

Water – Arizona			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Point system, taking into account population served, pressure zones, booster stations, storage tanks, blending, fire protection systems, cathodic protection, control system technologies, water quality, and treatment: Grade 1: 0 points Grade 2: 1 - 20 points Grade 3: 21 - 35 points Grade 4: > 35 points</p> <p><u>Water Treatment</u> Point system, taking into account maximum treatment capacity, population served, water source, complexity of treatment, and water quality: Grade 1: 1 - 25 points Grade 2: 26 - 50 points Grade 3: 51 - 70 points Grade 4: > 70 points</p> <p>Operators are classified according to the systems they are qualified to operate.</p>	<p>Operators must have a HSD or GED, pass a written exam with a grade of 70 percent or above and meet the following relevant experience and education requirements.</p> <p>Grade 1: No experience required. Grade 2: 1 year experience, 2 years postsecondary education and 1 year of experience, Bachelor’s degree and 6 months of experience Grade 3: 2 years of experience, 2 years of post-secondary education and 18 months experience, or a Bachelor’s degree and 1 year of experience Grade 4: 3 years of experience; or 2 years of post-secondary education and 30 months of experience, or a Bachelor’s degree and 2 years of experience</p> <p>Must hold the lower-grade-level certificate for one full year prior to sitting for the next grade level</p>	<p>Certificates are valid for 3 years. An operator may renew his/her certificate before 3 years, if the request is made in writing.</p> <p>Operators must accumulate at least 30 Professional Development Hours (PDH) during the certification period. At least 10 PDHs must be specifically related to the job function of the operator. Instead of completing PDHs, operators may renew a certificate by passing an exam for the applicable grade.</p>	<p>Uses ABC need-to-know criteria and conversion sheets. Provides a list of reference materials for operator certification exams. Wide list, wide range of materials (Sacramento, AWWA and ARC publications)</p> <p>The Arizona Operator Core Competencies Course provides 16 hours of PDH-approved training for drinking-water operators in the state of Arizona. These are available as individual lessons for credit or as a whole course.</p>

Program and Website- Arizona Department of Environmental Quality - <http://legacy.azdeq.gov/environ/water/dw/opcert.html>;

Reciprocity: ADEQ will recognize certifications obtained from other jurisdictions. To receive reciprocity, you must: demonstrate that you passed an examination that is equivalent to those administered by ADEQ approved testers; and complete and submit the Arizona Request for Operator Certification Reciprocity along with copies of your current active certificate(s).

Wastewater – Arizona			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC0)? What is the source?
<p><u>Collection Systems</u> Classification based on number of people served Grade 1: <2,500 people Grade 2: 2,501-10,000 people Grade 3: 10,001 – 25,000 people Grade 4: >25,000 people</p> <p><u>Wastewater Treatment</u> Grade 1 Stabilization pond that serves 2,000 or fewer persons; Grade 2 Stabilization pond that serves > 2,000 persons; Aerated lagoon: or Activated sludge treatment serving, 5000 people Grade 3 Activated sludge serving 5,001 to 20,000 persons; Trickling filtration serving 5,001 to 25,000 persons Grade 4 Activated sludge serving > 20,000 persons; Trickling filtration serving > 25,000 persons</p>	<p>Operators must have a HSD or GED, pass a written exam with a grade of 70 percent or above and meet the following relevant experience and education requirements.</p> <p>Grade 1: No experience required. Grade 2: 1 year experience, 2 years postsecondary education and 1 year of experience, Bachelor’s degree and 6 months of experience Grade 3: 2 years of experience, 2 years of post-secondary education and 18 months experience, or a Bachelor’s degree and 1 year of experience Grade 4: 3 years of experience; or 2 years of post-secondary education and 30 months of experience, or a Bachelor’s degree and 2 years of experience</p>	<p>Certificates are valid for 3 years. An operator may renew his/her certificate before 3 years, if the request is made in writing.</p> <p>Operators must accumulate at least 30 Professional Development Hours (PDH) during the certification period. At least 10 PDHs must be specifically related to the job function of the operator. Instead of completing PDHs, operators may renew a certificate by passing an exam for the applicable grade.</p>	<p>Uses ABC need-to-know criteria and conversion sheets. Provides a list of reference materials for operator certification exams. Wide list, wide range of materials (Sacramento, AWWA and ARC publications) The Arizona Operator Core Competencies Course provides 16 hours of PDH-approved training for drinking-water operators in the state of Arizona. These are available as individual lessons for credit or as a whole course.</p>

Program and Website- Arizona Department of Environmental Quality - <http://legacy.azdeq.gov/enviro/water/dw/opcert.html>

Water – Arkansas			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To- Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Class D I-IV and small systems, based on population served and level of complexity (one pressure zone, multiple pressure zones. A small system serves fewer than 500 people, with a single pressure zone</p> <p><u>Water Treatment</u> Class T I-IV, based on population served and type of treatment (chemical treatment or advanced treatment).</p> <p>One grade higher license is required for the ORC or a “Superior”</p> <p>OIT status is awarded to people who pass the exam but do not have required experience.</p>	<p>All operators must have an HSD or equivalent.</p> <p>All operators must complete certain training courses for each license grade and type prior to examination. The total training required can range from 40 to 96 hours.</p> <p>All operators must pass a written examination for each level of certification. Each license level has a certain level of experience that must be obtained prior to the license being issued:</p> <p>Grade I: 6 months Grade II: 1 year Grade III: 2 years Grade IV: 3 years Very Small System: No experience requirement</p>	<p>Certificates must be renewed every 2 years.</p> <p>Operator must complete at least 24 contact hours of approved training every 2 years. A minimum of 12 of these hours must be in subjects directly related to operating or maintaining the water system. The other 12 hours may be in indirectly related subjects, such as safety, wastewater treatment, plumbing inspection and laboratory processes.</p>	<p>ABC Need-to-Know Criteria.</p> <p>Provides a list of recommended study materials. Group A – Recommended Reference Materials – Primarily Sacramento State Manuals</p> <p>Group B – Recommended Alternate Reference Materials - AWWA Principles and Practices of Water Supply Operations Series (P&PWSOS)</p> <p>Group C – RECOMMENDED ADDITIONAL REFERENCES - Other AWWA references</p>

Program and Website - Arkansas Department of Health - <http://www.healthy.arkansas.gov/programs-services/topics/drinking-water-operator-certification>

Reciprocity - Any applicant holding a valid License from another State with at least equal requirements of can be issues a license. Such license shall be issued only after an evaluation has been made by the Department to ensure that the applicant's out-of-state License is current and has equal requirements to the License to be issued.

Wastewater – Arkansas			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection System</u> There are no collection system requirements</p> <p><u>Wastewater Treatment</u> Treatment systems are classified Class I-IV based on a point system that is impacted by the type of treatment and population served.</p>	<p>All operators must have an HSD or equivalent. All operators must pass a written examination for each level of certification.</p> <p>Class 1 – 40 hours training, no experience required Class II – 80 hours of training, 2 years of experience Class III – 120 hours of training and 3 years experience Class IV – 200 hours of training and 6 years experience Each license level has a certain level of experience that must be obtained prior to the license being issued:</p>	<p>Certificates must be renewed every 2 years. Operator must complete at least 24 contact hours of approved training every 2 years. A minimum of 12 of these hours must be in subjects directly related. The other 12 hours may be in indirectly related subjects.</p>	<p>No NTKC are identified. Wastewater operators are required to take training courses, workshops, seminars, or other events from ADEQ-approved sources only.</p> <p>Operators are directed to Arkansas Environmental Training Academy (AETA) and Arkansas Rural Water Association (ARWA) for training.</p>

Program and Website - Arkansas Department of Environmental Quality - <https://www.adeg.state.ar.us/water/enforcement/wwl/>

Water – California			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classified by population served and system complexity. The population categories are: D1: ≤ 1,000 D2: 1,001 - 10,000 D3: 10,001 - 50,000 D4: 50,001 - 5 million D5: > 5 million Can be upgraded one level due to complexity, using a point system. which takes into account: number of pressure zones, storage reservoirs and uncovered storage reservoirs, treatment, the size of the largest pump used, and customers with a nonpotable water supply connection.</p> <p><u>Water Treatment</u> Treatment systems are classified as T1-T5, according to a point system that takes into account various source water characteristics, maximum capacity and treatment techniques.</p>	<p>Applicants must have an HSD or GED, pass the relevant certification exam, and meet education and experience requirements.</p> <p>Distribution D1 – Exam only D2 – One 36 hour training D3 – D2 certificate, Two 36 hour trainings D4 – D3 certificate, three 36 hour trainings and 4 years experience D5 – D4 certificate and four 36 hour trainings, 5 years</p> <p>Treatment T1 – Exam only T2 – One 36 hour training T3 – Two 36 hour trainings T4 – T3 certificate, three 36 hour trainings and 4 years experience T5 – T4 certificate and four 36 hour trainings, 5 years experience.</p>	<p>Certification must be renewed every 3 years</p> <p>Contact hour requirements for each certification:</p> <p>D1, T1: 12 hours D2, T2: 16 hours D3, T3: 24 hours D4, T4: 36 hours D5, T5: 36 hours</p> <p>Up to 25 percent of contact hours can be fulfilled by completing safety training.</p>	<p>CA specific - Expected Range Of Knowledge - http://www.waterboards.ca.gov/drinking_water/certlic/occupations/documents/opcert/2016/treat_range_of_know.pdf</p> <p>Don't provide a list of recommended study guides except to CA and EPA regulations.</p> <p>Have an extensive list of training providers and courses.</p>

Program and Website: EPA - State Water Resources Control Board (SWRCB) - http://www.waterboards.ca.gov/drinking_water/certlic/occupations/DWopcert.shtml

Reciprocity - The Board may grant certification through reciprocity to operators who hold a valid water treatment or distribution certificate issued by another state. Reciprocity is offered for Grades 1 – 3 for both water treatment and distribution. The Board will compare education and experience to that required for certification as a water treatment or distribution operator in California to make a determination.

Wastewater – California			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To- Criteria (NTKC)? What is the source?
<u>Collection Systems</u> No requirements were identified <u>Wastewater Treatment</u> Class I - Primary/ Conventional Treatment Pond 1.0 MGD or less Class II - Primary, Biofiltration >1.0 - 5.0. . Modified Treatment Pond. 1.0 or less Classes III – V (Based on size for each technology) Primary, Biofiltration, Activated Sludge, Sequencing Batch Reactor, Tertiary .	Applicants must have an HSD or GED, pass the relevant certification exam, and meet education and experience requirements, which vary by system class. California’s education and experience requirements are complex and allow for different paths with mixes of academic education, continuing education and experience. http://www.waterboards.ca.gov/water_issues/programs/operator_certification/docs/ocr_table.pdf	Certification must be renewed every 3 years, or at least 120 Days, but not more than 180 days, before the expiration date. An application including the renewal fee and list of completed contact ours must be submitted. No requirement for continuing education.	CA specific - Expected Range Of Knowledge NTKC is defined in the enabling legislation. Provides a Wastewater Operator Certification Training Directory

Program and Website -- State Water Resources Control Board - Operator Certification program (WWOCP) - http://www.waterboards.ca.gov/water_issues/programs/operator_certification/operator_certification.shtml

Some Class I WWTPs may qualify for an exemption, meaning a certified operator would not be required to operate the plant. The WWTP shall be granted an exemption only if the WWOCP determines that the WWTP could not, due to operator error, violate water quality objectives. Several types of wastewater treatment facilities are not classified by the WWOCP and therefore, operators working at those facilities are not required to be certified. Those facilities include privately owned Industrial WWTPs, such as winery or food processing facilities; agricultural WWTPs, such as a dairy farm; and many tribal-owned WWTPs. Additionally, onsite wastewater treatment systems (OWTS) that are covered by the State Water Board OWTS Policy do not require certified operators.

Water – Colorado			
Classification of Operators, Facilities, and Systems	Classification of Operators, Facilities, and Systems	Classification of Operators, Facilities, and Systems	Classification of Operators, Facilities, and Systems
<u>Distribution Systems</u> Classified based on population (or make changes due to complexity of the system): Class 1: serving ≤ 3,300 Class 2: serving 3,301 – 25,000 Class 3: serving 25,001 – 100,000 Class 4: serving ≥ 100,000 <u>Water Treatment</u> Treatment facilities are classified based on water source, design flow, source water and complexity of treatment unit processes as Class A, B, C, or D , where A is the highest. Class T – For transient systems serving <100, using groundwater and non-gas chlorine disinfection Class S – Serves <3,300 and would be classified D water treatment and Class 1 distribution system.	<u>Distribution Systems</u> Classified based on population (or make changes due to complexity of the system): Class 1: serving ≤ 3,300 Class 2: serving 3,301 – 25,000 Class 3: serving 25,001 – 100,000 Class 4: serving ≥ 100,000 <u>Water Treatment</u> Treatment facilities are classified based on water source, design flow, source water and complexity of treatment unit processes as Class A, B, C, or D , where A is the highest. Class T – For transient systems serving <100, using groundwater and non-gas chlorine disinfection Class S – Serves <3,300 and would be classified D water treatment and Class 1 distribution system.	All certified operators must earn training units to qualify for certificate renewal. Certificates must be renewed every 3years: (1 unit = 10 contact hours) Class T: 1.2 units Class S: 1.8 units Class D: 1.2 units Class C: 1.8 units Class B: 2.4 units Class A: 3 units Class 1: 1.2 units Class 2: 1.8 units Class 3: 2.4 units Class 4: 3 units	Colorado uses ABC NTKC but has reformatted in a state specific formation. Criteria is available for water, distribution, wastewater, and collection systems

Program and Website -- Water and Wastewater Facility Operators Certification Board (WWFOCB) - <https://www.colorado.gov/pacific/cdphe/water-and-wastewater-facility-operators-certification-board-wwfocb>

Reciprocity -- Operators must submit a written application for certification by reciprocity to the Board or its contractor. Certificates may be issued by the Board or its contractor, without examination, on a case by-case basis, to persons in a comparable classification who have met the following requirements: (1) Passed an adequate, validated examination and who hold a valid certificate in another state, territory, or possession of the United States, or other country as issued by one of these entities or, at the discretion of the Board, by another certifying entity, provided the requirements for certification of operators under which the person’s certificate was issued do not conflict with the provisions of Article 9 of Title 25, C.R.S., and are of a standard not lower than that specified by these regulations. (2) Obtained qualifying experience in the state, territory, or possession of the United States, or other country in which they hold a valid certificate.

Wastewater – Colorado			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Four classes based on size.: Class 1, Class 2, Class 3 or Class 4. Class 4 is the highest level of classification and Class 1 is the lowest level of classification.</p> <p><u>Wastewater Treatment</u> Facilities shall be classified in accordance with the following four classes: Class D, Class C, Class B, or Class A. Class A is the highest level of classification and Class D is the lowest level of classification. Classification is based on size and type of treatment process used. Domestic wastewater treatment facilities and category D non-single family, indoor toilet and urinal flushing graywater treatment</p>	<p>Applicants must have a high school diploma or GED to apply for examination. Applicants must pass a validated written exam and must meet minimum experience requirements for each exam level. Education may substitute for experience. Exams must be taken in sequential order.</p> <p>Minimum experience requirements: Class T: none Class S: 1 month Class D or 1: 1 month Class C or 2: 2 years Class B or 3: 3 years Class A or 4: 4 years</p>	<p>All certified operators must earn training units to qualify for certificate renewal.</p> <p>Certificates must be renewed every 3years: (1 unit = 10 contact hours)</p> <p>Class T: 1.2 units Class S: 1.8 units Class D: 1.2 units Class C: 1.8 units Class B: 2.4 units Class A: 3 units</p> <p>Class 1: 1.2 units Class 2: 1.8 units Class 3: 2.4 units Class 4: 3 units</p>	<p>Colorado uses ABC NTKC but has reformatted in a state specific formation. Criteria is available for water, distribution, wastewater, and collection systems</p>

Program and Website - Water and Wastewater Facility Operators Certification Board (WWFOCB) - <https://www.colorado.gov/pacific/cdphe/water-and-wastewater-facility-operators-certification-board-wwfocb>

Water – Connecticut			
Classification of Operators, Facilities, and Systems	Classification of Operators, Facilities, and Systems	Classification of Operators, Facilities, and Systems	Classification of Operators, Facilities, and Systems
<p><u>Distribution Systems</u> Classification of distribution systems is based on population served: Class I: 1,000 - 5,000 Class II: 5,001 - 50,000 Class III: > 50,001</p> <p><u>Water Treatment</u> Classification of treatment systems is based on the ABC's point system which ranks treatment complexity, plant size, and water source: Class I: 30 points or less Class II: 30 - 55 points Class III: 56 - 75 points Class IV: 76 points or higher</p> <p>Small Water Systems (SWS): Systems serving fewer than 1,000 people that do not provide treatment; or provide non-chemical treatment, process adjustment, backwashing, or media regeneration by an operator</p>	<p>All operators must have an HSD or GED. All operators must pass an exam, and have at least the following length of experience:</p> <p>Distribution System (DS) Operators: Class I – 1 year at a DS Class II – 2 years at a DS Class III – 4 years at a DS Treatment Plant (TP) Operators Class I - 1 year at class 1 Class II - 2 years at class 2 or 2 yrs. in Direct Responsible Charge (DRC) of Class 1 Class III - 3 years at class 3 or 3 yrs. in DRC of Class 2 Class IV - 4 years at class 4 or 4 yrs. in DRC of Class 3</p> <p>Education beyond 12 years may be substituted for the experience requirements for TP and DS Operators. Small Water System Operators: 6 months or substituted by 20 hours of approved training</p>	<p>Certificates must be renewed every 3 years. To qualify for renewal, operators must complete a required number of training hours. Training hours may be fulfilled through CEUs or college credits</p> <p>Class I (TP and DS) and SWS: 10 hours Class II (TP and DS): 20 hours Class III (TP and DS) and IV (TP): 30 hours</p>	<p>The Association of Boards of Certification (ABC) provides the certification examinations.</p> <p>Conn. produces its own, Operator Examination Subject List. The items listed on the subject lists are incorporated within the generalized exam topics on the ABC reference material lists.</p>

Program and Website – Department of Public Health - <http://www.ct.gov/dph/cwp/view.asp?q=387328>

Reciprocity - The department may waive the examination requirements specified in Section 25-32-9(d) Section 25-32-11(d), and Section 25-32-11a(c) in the event that the applicant has passed an examination given by another state or ABC and the department has entered into a reciprocity agreement with that state or ABC. A reciprocity agreement may only be established if the department deems that the requirements of the other state or ABC are at least as stringent as those of the department.

Wastewater – Connecticut			
Classification of Operators, Facilities, and Systems	Classification of Operators, Facilities, and Systems	Classification of Operators, Facilities, and Systems	Classification of Operators, Facilities, and Systems
<p><u>Collection Systems</u> Voluntary program administered through the New England Water Environment Association</p> <p><u>Wastewater Treatment</u> Classification of treatment systems is based on the ABC's point system which ranks treatment complexity, plant size, and water source: Class I: 30 points or less Class II: 30 - 55 points Class III: 56 - 75 points Class IV: 76 points or higher</p>	<p>All levels requires a high school diploma or G.E.D. and passing appropriate level of exam. Class I – One year of experience at Class I or higher and completion of a basic wastewater treatment facility operation course. Class II – Three years of experience at of Class I and higher education equivalent to at least 30 CEUs. Class III - Four years of experience in the operation of a wastewater treatment facility of Class II or higher; (ii) a high school diploma or G.E.D.; and (iii) successful completion of higher education equivalent to at least 90 CEUs in a field determined by the commissioner to be related to the operation of a wastewater treatment facility; and (B) pass the Class III examination. Class IV - Four years of experience in the operation of a Class III or IV wastewater treatment facility, two years direct responsible charge as a chief operator, and successful completion at least 135 CEUs. Operator-in-training - Meet all the requirements for such certification except for the minimum operating experience requirement.</p>	<p>Presently renewal is not a requirement to maintain wastewater certification in Connecticut. However, a certificate will lapse if an operator leaves a Water Pollution Control Facility and does not reemploy at a facility within 2 years.</p> <p>There are no requirements for continuing education (except to obtain higher level of certification) were identified.</p>	<p>Provides the document, Connecticut Wastewater Operator Certification Guidelines that includes pre-approved training resources</p>

Program and website: Department of Energy and Environmental Protection - <http://www.ct.gov/deep/cwp/view.asp?q=325582>

Water – Delaware			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p>There is a Base-Level Water-Supply Operator Classification. In addition, operators must have the appropriate endorsement (6 possible) based on treatment techniques: disinfection, chemical feed, filtration, surface water operations, other specified treatment, distribution, and approved sampler/tester.</p> <p>There are specialty class licenses, operator in training (OIT), limited (school system, day care facility or small NTNC), grandfathered, distribution, circuit rider.</p>	<p>It is not clear if testing is required. The statute states that department may require testing by a neutral third party and that operators must pass the exam with a minimum score of 75 percent for each endorsement category. Additional qualifications are as follows:</p> <p>Base Level and Distribution System Operators: HSD or GED and 1 year of experience, or 3 years of experience.</p> <p>Limited License: Same as Base Level, but license is non-transferable to another water system.</p> <p>OIT: Does not meet above requirements, but passed the written exam.</p> <p>Circuit Rider: Must be certified for all systems for which they are in direct responsible charge, conduct at least three visits each week at each water system that he/she is in direct-responsible-charge (number may be adjusted by Council upon yearly review) and be within 2 hours of each system.</p>	<p>Licenses are valid for 2 years, except OIT licenses are valid for 1 year.</p> <p>Operators must have the following number of contact hours in each 2-year period: All operators: 20 hours At least 50% of training (10 educational contact hours) must be obtained in classes directly related to waterworks operation, treatment or distribution.</p>	<p>No reference to NTKC or recommended study resources for operators</p>

Program and website: Natural Resources and Environmental Conservation;

<http://www.dnrec.delaware.gov/wr/SERVICES/OTHERSERVICES/Pages/SurfaceWaterDischargesLicensing.aspx>

Reciprocity will be granted, if in the judgment of the Secretary, the requirements under which the certification or license was issued do not conflict with the provisions of this regulation or any rules promulgated hereunder, and are of a standard not lower than that specified by these Regulations.

Wastewater – Delaware			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No requirements were identified</p> <p><u>Wastewater Treatment</u> Classified on a point system based on complexity Class I - 11 - 30 Points Class II - 31 - 55 Points Class III - 56 - 75 Points Class IV - 76 Points or greater</p> <p>Specialty License - where a Wastewater Facility is of a highly unusual character, requiring skills and techniques other than those indicated by the general criteria. Such Specialty License shall only be valid for operating the specific Wastewater Facility for which it is issued.</p> <p>Operator-In-Training License - An applicant who does not meet the experience or educational requirements may receive an Operator-In-Training (OIT) license, pending fulfillment of these requirements, providing the appropriate examination has been successfully passed</p> <p>Emergency License - An emergency license may be issued, when it is demonstrated to the satisfaction of the Secretary, that the owner is unable to hire a licensed operator in spite of good faith efforts</p>	<p>Class IV - A college degree or completion of four (4) years in a standard curriculum in engineering or allied subjects, plus four (4) years of acceptable operating experience in Wastewater Facilities of Class III or higher; two years of which must have been in a position of Direct Responsible Charge (DRC).</p> <p>Class III - HSD and two (2) years of approved college level education in engineering or allied subjects, plus four (4) years of acceptable operating experience in Wastewater Facilities of Class II or higher; two years of which must have been in a position of Direct Responsible Charge (DRC).</p> <p>Class II HSD, plus three (3) years of acceptable operating experience in Wastewater Facilities of Class I or higher.</p> <p>Class I - HSD, plus one (1) year of acceptable operating experience.</p>	<p>Licenses are valid for 2 years, except OIT licenses are valid for 1 year. Operators must have the following number of contact hours in each 2-year period: All operators: 20 hours</p>	<p>Provides a Wastewater Operator Exam Resource Booklet</p>

Program and Website: Board of Certification for Wastewater Operators

<http://www.dnrec.delaware.gov/wr/SERVICES/OTHERSERVICES/Pages/SurfaceWaterDischargesLicensing.aspx>

Water – Florida			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classified as Category I or II and further divided into levels 1 through 4). Category I Distribution System connected to a Class A, B, or C water treatment plant with: Level 1: Serving 100,000 or more people. Level 2: Serving at least 10,000 and less than 100,000 people. Level 3: Serving at least 1,000 and less than 10,000 people. Level 4: Serving less than 1,000 people. Category II Distribution System is connected to a Class D water treatment plant with: Level 4: No minimum population served.</p> <p><u>Water Treatment</u> Water treatment plants (including CWSs and NTNCWSs) are classified A, B, C and D with class being the highest. Water treatment system classifications are described at: http://www.dep.state.fl.us/water/wff/ocp/docs/ocp_handbook.pdf</p>	<p>All applicants must have an HSD or GED and score at least 70 percent on FL DEP’s Class/Level-specific examination. To be eligible to take the examination for any license classification the candidate must document successful completion of an approved training course within 5 years of filing an application (course is optional for Level 4). The required experience is: Class A/Level 1: At least 5 years (10,400 hours) and an active Class B/Level 2 license Class B/Level 2: At least 3 years (6,240 hours) and an active Class C/Level 3 license Class C/Level 3: At least 1 year (2,080 hours) Class D/Level 4: At least 3 calendar months or completion of an approved course and one hour of experience</p>	<p>Licenses must be renewed every 2 years.</p> <p>Licenses expire on April 30 of odd numbered years (renewal notices are mailed 90 days before an active license expires).</p> <p>To be eligible for renewal the operator must pay a fee and document completion of an appropriate number of continuing education units (CEU) based on the class/level of license being renewed.</p> <p>FL DEP notifies operators upon renewal or denial of renewal</p>	<p>Subject Outlines are published in the Operator Certification Program Handbook. These can be found at: https://floridadep.gov/sites/default/files/ocp_handbook_8.pdf</p> <p>Training for certification is through a list of approved providers University of FL/TRECO Center FL Water & Pollution Control Operators Association (FWPCOA) Florida Rural Water Association Florida Water Environment Association (FWEA) Florida Section American Water Works Association (FSAWWA) Florida University of Sanitary Education, Inc There is also an approved list of on-line and community college</p> <p>Training courses require students to obtain resources, most commonly the Sacramento manuals.</p>

Program and website: Department of Environmental Protection; <http://www.dep.state.fl.us/Water/wff/ocp/index.htm>

Reciprocity - Florida does not offer reciprocity with any other state or foreign country.

Wastewater – Florida			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No collection system requirements were identified</p> <p><u>Wastewater Treatment</u> Wastewater treatment plants are classified A, B, C and D with class being the highest.</p>	<p>All applicants must have an HSD or GED and score at least 70 percent on FL DEP’s Class/Level-specific examination. To be eligible to take the examination for any license classification the candidate must document successful completion of an approved training course within 5 years of filing an application (course is optional for Level 4).</p> <p>The required experience is: Class A/Level 1: At least 5 years (10,400 hours) and an active Class B/Level 2 license Class B/Level 2: At least 3 years (6,240 hours) and an active Class C/Level 3 license Class C/Level 3: At least 1 year (2,080 hours) Class D/Level 4: At least 3 calendar months or completion of an approved course and one hour of experience</p>	<p>Licenses must be renewed every 2 years.</p> <p>Licenses expire on April 30 of odd numbered years (renewal notices are mailed 90 days before an active license expires).</p> <p>To be eligible for renewal the operator must pay a fee and document completion of an appropriate number of continuing education units (CEU) based on the class/level of license being renewed.</p> <p>FL DEP notifies operators upon renewal or denial of renewal</p>	<p>Subject outlines are published in the Operator Certification Program Handbook. These can be found at:</p> <p>Training for certification is through a list of approved providers University of FL/TRECO Center FL Water & Pollution Control Operators Association (FWPCOA) Florida Rural Water Association Florida Water Environment Association (FWEA) Florida Section American Water Works Association (FSAWWA) Florida University of Sanitary Education, Inc There is also an approved list of on-line and community college</p>

Program and website: Department of Environmental Protection; <http://www.dep.state.fl.us/Water/wff/ocp/index.htm>

Water – Georgia			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> There is one level of certification for water distribution system operator.</p> <p><u>Water Treatment</u> PWSs are classified as Class I-IV based on source water (surface water, ground water, or distribution only), population (for ground water systems), treatment complexity, and plant capacity. Class IV systems are very small ground water systems serving fewer than 1,000 people.</p>	<p>All applicants must have at least an HSD or GED; pass a written exam; have a certain amount of experience based on license Class; and, complete a certain number of hours of course work (identified as advanced or basic), depending upon license class.</p> <p>Applicants must have completed experience requirements in actual system operation before taking the exam.</p> <p>Applicants may take the exam before completing experience requirements, but cannot apply for the license until completion of the requisite experience in actual system operation.</p> <p>Experience requirements include:</p> <p>Class I: 3 years, Associate degree and 2.5 years, or Bachelor of Science and 2 years. Also current Class II certification.</p> <p>Class II: 2 years, Associate degree and 1.5 years, or Bachelor of Science and 1 year. Also current Class III certification and 48 hours advanced course work.</p> <p>Class III: 3 months experience and 40 hours course work.</p> <p>Class IV: 1 month experience and 6 hours course</p>	<p>Certificates must be renewed every 2 years prior to the expiration date, and expire on June 30 of odd-numbered years.</p> <p>Continuing education requirements:</p> <p>Class IV: 6 points Class III: 12 points Class II: 18 points Class I: 24 points</p> <p>Certificates may be renewed within 3 months of expiration with a \$115 late fee.</p> <p>An operator with dual certificates must obtain a minimum of 25 percent required continuing education points in each discipline.</p>	<p>In 2017, GA is piloting the new ABC NTKC.</p>

Program and website: Board of Water & Wastewater Treatment Plant Operators; <http://sos.ga.gov/index.php/licensing/plb/54>

Reciprocity: The board, upon application, may issue a certificate without examination to any person who holds a certificate in good standing issued by another country or by any state, territory, or possession of the United States which has requirements for certification substantially similar to those of the board.

Wastewater – Georgia			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> There is one level of certification for wastewater collection system operator</p> <p><u>Wastewater Treatment</u> Systems are classified Class I-IV Biological Wastewater Treatment Operator</p>	<p>All applicants must have at least an HSD or GED; pass a written exam; have a certain amount of experience based on license Class; and, complete a certain number of hours of course work (identified as advanced or basic), depending upon license class.</p> <p>Classes I & II, must have completed experience requirements in actual system operation before taking the exam. May take the exam before completing experience requirements, but cannot apply for the license until completion of the requisite experience in actual system operation.</p> <p>Experience requirements include: Class I: 3 years, Associate degree and 2.5 years, or Bachelor of Science and 2 years. Also current Class II certification. Class II: 2 years, Associate degree and 1.5 years, or Bachelor of Science and 1 year. Also current Class III certification and 48 hours advanced course work. Class III: 3 months experience and 40 hours course work. Class IV: 1 month experience and 6 hours course</p>	<p>Certificates must be renewed every 2 years prior to the expiration date, and expire on June 30 of odd-numbered years. Continuing education requirements: Class IV: 6 points Class III: 12 points Class II: 18 points Class I: 24 points</p> <p>Certificates may be renewed within 3 months of expiration with a \$115 late fee. An operator with dual certificates must obtain a minimum of 25 percent required continuing education points in each discipline.</p>	<p>In 2017, GA is piloting the new ABC NTKC .</p>

Program and website: Board of Water & Wastewater Treatment Plant Operators; <http://sos.ga.gov/index.php/licensing/plb/54>

Water – Hawaii			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> (DS) Classified according to population served: Class 1: ≤ 1,500 Class 2: 1,501 - 15,000 Class 3: 15,001 - 50,000 Class 4: ≥ 50,001 Operators are classified according to the system they are qualified to operate</p> <p><u>Water Treatment</u> Plants are classified as Grade 1 - Grade 4, according to complexity of treatment. Grade 1 WTPs (for example, slow sand filtration; chlorination, fluoridation, etc.), are the simplest to operate. Grade 4 (for example, conventional treatment or direct filtration), are the most complex.</p>	<p>Applicants must have an HSD or GED and pass a certification exam with a minimum grade of 70 percent. For DSs only, an eighth-grade education plus 4 years of work experience can be considered to be the equivalent of a GED. Experience requirements: OIT: No experience. Grade 1: 1 year. Grade 2: Grade 1 certification and 1 year; 2 years with a HSD; or 1 year with a Bachelor’s degree. 1 year of experience must be at Class 2 or higher WTP. Grade 3: Grade 2 certification and 1 year; 3 years and HSD; 2 years and Associate’s degree; or 1 year and Bachelor’s degree. Must include one year at a membrane filtration, Class 3 or 4 WTP, with one month at a Class 3 or 4 WTP. Grade 4: Grade 3 certification and 1 year at Class 3 or 4 WTP; 4 years and HSD, 3 years and Associate degree; or 2 years and Bachelor’s degree. Must include one year at a membrane filtration, Class 3 or 4 WTP and 1 year at a Class 3 or 4 WTP.</p>	<p>Certificates must be renewed every 3 years. The Board will send a courtesy renewal notice to the license holder. Renewal is contingent on completion of continuing education units (CEUs) every 2 years. 10 hours are required for each CEU. Grade 1 or 2: 0.8 CEUs. Grade 3 or 4: 1.6 CEUs. One month after expiration, the operator can no longer perform duties of an operator, until he/she has applied for renewal. For the second through twelfth months following a certificate’s expiration, renewal fees are doubled</p>	<p>Association of Boards of Certification (ABC)</p> <p>Provides a list of resources in an Operator library: American Water Works Association (AWWA) Association of State Drinking Water Administrators (ASDWA) / National Rural Water Association (NRWA) Security Vulnerability Self Assessment Guide for Small Drinking Water Systems California State University, Sacramento (CSUS) Water Treatment Plant Operation, Volume I and II.</p>

Program and website: Safe Drinking Water Branch - <http://health.hawaii.gov/sdwb/operatorcert/>

Reciprocity -- An applicant currently certified by another state may apply for certification by reciprocity in the grade in which the applicant is currently certified. The Board will review the application to determine if the state in which the applicant is currently certified has similar certification requirements as the State of Hawaii. If an applicant’s application for certification by reciprocity is approved by the Board, no examination is required.

Wastewater – Hawaii			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No collection system requirements were identified</p> <p><u>Wastewater Treatment</u> Grades I-IV based on a point system that combines the size of the system and type of treatment.</p>	<p>Applicants must have an HSD or GED and pass a certification exam with a minimum grade of 70 percent.</p> <p>Grade I: 1 year experience Grade II: 2 years exp. and 22 CEUs Grade III: 2 years exp. and 32 CEUs Grade IV: 4 years exp. and 48 CEUs</p> <p>Associates degree or bachelor’s degree can be substituted for some experience. Additional months of experience can reduce some of the CEU’s required.</p>	<p>Certificates shall be valid for a period of twenty-four months and shall expire on October 15 of the appropriate year.</p> <p>The certified operator must earn a minimum of two continuing education units or equivalent as approved of by the board within a twenty-four month period immediately prior to the certificate's expiration date.</p>	<p>A link is provided to ABC NTKC</p>

Program and website: Wastewater Branch - <http://health.hawaii.gov/wastewater/home/boc/>

Water – Idaho			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classification of distribution systems into Class I-IV is based on system complexity and size.</p> <p><u>Water Treatment</u> Classification of treatment systems into Class I-IV is based on system complexity, size, and source water. A Very Small System is a CWS or NTCWS that serves 500 or fewer people and has no treatment other than disinfection or has only treatment which does not require any chemical treatment, process adjustment, and backwashing or media regeneration by an operator. OIT status is awarded to people who pass the exam but do not have required experience.</p>	<p>All operators must have an HSD or GED and must pass a written exam with a minimum score of 70 percent. The following onsite experience requirements apply: Class I restricted: 260 hours of experience during 12 consecutive months at a specific system and 16 hours of continuing education. After 1,600 hours of supervised experience, will be eligible to upgrade to Class I. Class I: 1 year of experience Class II: 3 years of experience at a Class I or higher system Class III: 2 years of post-high school education and 4 years of experience at a Class II or higher system, including 2 years in charge of a major segment of a system in same or next lower class Class IV: 4 years of post-high school education and 4 years of experience at a Class III or higher system, including 2 years in charge of a major segment of a system in same or next lower class Very Small System: 88 hours of experience; plus a 6-hour water treatment course, chlorination course, or combination and a 6-hour water distribution course OIT: No further requirements Some education can be substituted for experience, and some experience can be substituted for education.</p>	<p>Certifications must be renewed annually. Operators must complete 0.6 continuing education units (CEUs) (6 contact hours). A reinstatement fee is required of operators who fail to renew their license prior to expiration, in addition to proof of continuing education or required documentation. The Board conducts annual audits to ensure compliance with continuing education requirements.</p>	<p>ABC's NTKC</p> <p>References AWWA, Sacramento State and a number of other resources.</p>

Program and website - Department of Environmental Quality - <http://www.deq.idaho.gov/water-quality/drinking-water/pws-classification-licensure/operator-resources>

Reciprocity - The board may waive the examination requirements and issue the appropriate license for applicants holding licenses issued by other States that have equivalent license requirements and who otherwise meet the requirements set forth in Subsections 150.02, 150.03, and 150.04.

Wastewater – Idaho			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Class I - IV – Based on size and complexity.</p> <p>Operator-In-Training</p> <p><u>Wastewater Treatment</u> Grades I-IV - Based on a point system that classified based on indicators of potential health risk including the system's complexity, volume, and variability in raw waste.</p> <p>Also have certifications for: Operator-In-Training Lagoon Land Application</p>	<p>All operators must have an HSD or GED and must pass a written exam with a minimum score of 70 percent. The following onsite experience requirements apply: Class I restricted: 260 hours of experience during 12 consecutive months at a specific system and 16 hours of continuing education. After 1,600 hours of supervised experience, will be eligible to upgrade to Class I. Class I: 1 year of experience Class II: 3 years of experience at a Class I or higher system Class III: 2 years of post-high school education and 4 years of experience at a Class II or higher system, including 2 years in charge of a major segment of a system in same or next lower class Class IV: 4 years of post-high school education and 4 years of experience at a Class III or higher system, including 2 years in charge of a major segment of a system in same or next lower class. Lagoon - Must have a high school diploma or GED and twelve (12) months of acceptable supervised operating experience at a Lagoon system</p>	<p>Certifications must be renewed annually. Operators must complete 0.6 continuing education units (CEUs) (6 contact hours). A reinstatement fee is required of operators who fail to renew their license prior to expiration, in addition to proof of continuing education or required documentation. The Board conducts annual audits to ensure compliance with continuing education requirements.</p>	<p>ABC's NTKC</p> <p>References AWWA, Sacramento State and a number of other resources.</p>

Program and website: Department of Environmental Quality - <http://www.deq.idaho.gov/water-quality/wastewater/pwws-classification-licensure/>

Water – Illinois			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p>CWSs are classified as Class A, B, C, or D, according to source water and complexity of treatment:</p> <p>Class D: Distribution, storage, pumping</p> <p>Class C: Ground water that utilize chemical feed only</p> <p>Class B: Ground water that includes filtration, aeration and filtration or ion exchange</p> <p>Class A: Surface water or ground water under the direct influence (GWUDI) that include coagulation, lime softening or sedimentation</p> <p>An Operator-in-Training status is awarded to a person who passes the exam but does not have required experience.</p> <p>NTNCWSs are classified by the DPH. Operators are classified according to the systems they are certified to operate.</p>	<p>Applicants must have an HSD or GED, pass an exam with a minimum score of 70 percent for a specific class of system, and meet the following experience requirements:</p> <p>Class A and B: At least 3 years of experience or training</p> <p>Class C: At least 1 year of experience or training</p> <p>Class D: At least 6 months of experience or training</p> <p>NTNCWSs: At least 12 hours of training</p>	<p>Certificates must be renewed every 3 years.</p> <p>Class A and B operators are required to accumulate 30 hours of drinking water-related training within this period.</p> <p>Class C and D operators must accumulate 15 hours of training.</p> <p>NTNCWS operators must attend a DPH-approved recertification training.</p> <p>Renewal applications must be submitted to IEPA before June 30th of the expiration year.</p> <p>A one-month grace period is granted before the restoration fee for a late renewal is assessed.</p>	<p>No NTKC was identified</p>

Program and website: Illinois EPA - <http://www.epa.illinois.gov/topics/drinking-water/operator-certification/index>

Reciprocity -- An applicant for a Class A, Class B, Class C or Class D Certificate of Competency who possesses a valid certificate issued under the laws of another certifying jurisdiction will be issued an Illinois Certificate of Competency, without examination, provided: 1) The Agency may determine by reviewing the other certifying jurisdiction's requirements that the applicant has met minimum standards equivalent to or more stringent than the standards specified in the Law and Section 681.500 of this Part prior to receiving the certificate from the other certifying jurisdiction; 2) The other certifying jurisdiction that issued the certificate to the applicant accepts, by reciprocity, certificates issued by the Agency; and 3) The applicant resides in Illinois or is employed at a public water supply in Illinois.

Wastewater – Illinois			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> There is one level of collection system operator</p> <p><u>Wastewater Treatment</u> Group 4 - Lagoon treatment systems. Group 3 - Fixed film processes and Imhoff tank systems with a design average flow (DAF) of less than 1.0 MGD, and all primary treatment systems. Group 2 - Activated sludge systems with a design average flow (DAF) of less than 1.0 MGD. Group 1 - All domestic wastewater treatment systems 1.0 MGD DAF or more, excluding lagoon systems and primary treatment systems.</p> <p>Operator-In-Training Basic Intermediate Advanced</p>	<p>Class 4 – 1 year wastewater operating experience and high school education or equivalent</p> <p>Class 3 – 3 years wastewater operating experience and high school education or equivalent</p> <p>Class 2 – 6 years wastewater operating experience and high school education or equivalent</p> <p>Class 1 – 8 years wastewater operating experience and high school education or equivalent Class K Active supervision and/or operation of an industrial wastewater treatment facility</p> <p>Operator-In-Training Basic - 3 months wastewater operating experience or 1 wastewater course Operator-In-Training Intermediate - 1 year wastewater operating experience Operator-In-Training Advanced -3 years wastewater operating experience and high school education or equivalent</p> <p>Collection System Operator - 1 year collection system operating experience and high school education or equivalent</p>	<p>There is no renewal requirement for wastewater operator certificates at the present time. Currently, a wastewater operator certificate has no expiration date.</p> <p>There are currently no CEU requirements</p>	<p>Illinois provides its own WW study guides. Class 1 Class 2 Class 3 Class 4 Operator-In-Training Class K - Industrial Collection System</p>

Program and website: Illinois EPA - <http://www.epa.illinois.gov/topics/water-quality/wastewater-operator-certification/index>

Water – Indiana			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know (NTK) Criteria? What is the source?
<p><u>Distribution Systems</u> Small (DSS): Serving 3,300 or fewer people, and having only basic components. Medium (DSM): Serving 3,301 to 10,000 people with minimal components. Large (DSL): Serving more than 10,000 people with more complex components.</p> <p><u>Water Treatment</u> Treatment systems are classified as WT 1 through WT 6, according to population served, type of treatment, character of wastes or water to be treated and other physical conditions. A Facility Specific Operator (FSO) may be given to systems that are NTNC DSS, or WT1 small community systems with population of 100 or less.</p> <p>OIT status is awarded to people who pass the exam but do not have required experience. They have up to 3 years (one certification cycle) to obtain the necessary experience.</p>	<p>Applicants must have an HSD or equivalent; score of 70 percent or higher on the exam; demonstrate knowledge about operation of treatment or distribution; and have the following hands on experience in operation at the specific class level (may substitute up to 2 years using college credit at levels WT 3 and above) but must have at least 1 year of hands on experience at each class level: DSS: 1 year at DSS DSM: 1 year at DSM or 2 years at DSS DSL: 1 year at DSL, 3 years at DSM, or 5 years at DSS WT 1: 1 year at WT 1 WT 2: 1 year at WT 2 or 2 years at WT 1 WT 3: 2 years at WT 3 WT 4: 2 years at WT 4 (may substitute 2 years at a WT 3 for 1 year at a WT 4) WT 5: 3 years at WT 5 or 5 years at WT 4 and 2 years at WT 3 may substitute for 1 year of experience with a maximum of 2 years substitution WT 6: qualifications are plant-specific</p>	<p>Operator certificates are valid for 3 years. To renew, these operators must have CEUs for their classification.</p> <p>Certification cards expire on June 30 of the third year after issuance. Continuing education unit (CEU) requirements vary according to system: DSS, WT1: 10 hours DSM, DSL, WT2: 15 hours WT3: 25 hours WT4, 5, 6: 30 hours</p> <p>A notice of certificate expiration is sent to operators one month prior to expiration.</p>	<p>No information is apparent on their web site.</p> <p>Training opportunities point toward on-line courses and those by organizations that include Sacramento State and AWWA.</p> <p>They provide their own equation and formula table.</p>

Program and website: Indiana Department of Environmental Management - <http://www.in.gov/idem/cleanwater/2446.htm>

Reciprocity -- A person from another state seeking a certificate by reciprocity earns the number of continuing education contact hours for future renewal periods in the time period required by section 15 of this rule though no continuing education contact hours shall be required at the time of conferring the reciprocal certification.

Wastewater – Indiana			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No separate collection system certification requirements were identified. Collection systems questions are included as part of the Class 1-IV exams</p> <p><u>Wastewater Treatment</u> Class I-SP waste stabilization ponds Class I includes wastewater treatment plants <2,000 Class II 2,000-10,000 Class III 10,000-40,000 Class IV >40,000</p> <p>Wastewater Apprentice</p>	<p>All operators must have a high school degree or GED. Class I-SP certified operator applicants must have attained the following: 6 months experience. Class I: 1 year experience. Class II: 3 years of acceptable experience at a wastewater treatment plant. Class III: 3 years experience, 2 years of the 3 years in a position of responsible charge Class IV: Bachelor's degree or associate's degree, 5 years of experience, 2 of the 5 years in a position of responsible charge</p>	<p>2-year renewal period, the following continuing education hours are required prior to certification renewal: Class A-SO and I-SP operators need a total of 5 contact hours. Class A, B, I and II operators need a total of 10 contact hours. Class C, D, III and IV operators need a total of 20 contact hours.</p>	<p>They provide state specific study guides and study key. Basic Conversion Sheet [PDF] Classes I & A Class II Classes III & IV Class B Classes C & D I-SP</p>

Program and website: Indiana Department of Environmental Management - <http://www.in.gov/idem/cleanwater/2393.htm>

Water – Iowa			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classified as I-IV, based on the average daily pumpage. Rural water districts are classified by miles of pipe.</p> <p><u>Water Treatment</u> Classified as I-IV based on treatment type and average daily pumpage. See 81.4(1) of Chapter 81 IAC for system classification details.</p> <p>Grade A classification was created for small CWSs (serving < 250 people) and NTNCWSs (serving < 500 people). Grade A systems provide no treatment except for hypochlorination or treatment that does not require any chemical addition.</p>	<p>Applicants must pass a written exam and meet the following requirements:</p> <p>Education A, 1,2,3, 4 – HSD or GED III – 2 years post HS IV – 4 years post HS</p> <p>Experience A – DNR training course I – 1 year II – 3 years III – 4 years IV – 4 years with 2 years as ORC at a III</p> <p>Experience and education substitutions are listed in IAC Chapter 81.7(1).</p>	<p>Certifications are valid for 2 years. Certificates of operators not meeting continuing education requirements by March 31 of the 2-year period, expire on June 30 of each odd-numbered year. Grade III and IV operators must earn 2 units, or 20 contact hours per certificate, every 2 years to renew. All other operators must earn 1 unit, or 10 contact hours per certificate, every 2 years.</p>	<p>References ABC's NTKC</p>

Program and website: Department of Natural Resources - <http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Certification/Water-Wastewater-Operators>

Reciprocity – Will accept for certified operators from other states' mandatory certification programs and the equivalency of which has been previously reviewed and accepted by the department, certification in an appropriate classification and grade, without examination, will be recommended. For operators from states with voluntary certification programs certification in an appropriate class will be considered.

Wastewater – Iowa			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collections Systems</u> No requirements for collection system certification were identified</p> <p><u>Wastewater treatment</u> Wastewater systems are classified Grades I-IV. There is an additional classification of IL and IIL for Lagoon systems. Grade II, III, or IV will satisfy requirements for IIL.</p> <p>Classification is based on design pounds of BOD5/day and design population equivalent. Five treatment types are used Primary, waste stabilization lagoon, aerated lagoon systems, fixed film biological, and activated sludge.</p>	<p>Applicants must pass a written exam and meet the following requirements:</p> <p>Education A, 1,2,3, 4 – HSD or GED III – 2 years post HS IV – 4 years post HS</p> <p>Experience A – DNR training course I – 1 year II – 3 years III – 4 years IV – 4 years with 2 years as ORC at a III</p> <p>Experience and education substitutions are listed in IAC Chapter 81.7(1).</p>	<p>Certifications are valid for 2 years. Certificates of operators not meeting continuing education requirements by March 31 of the 2-year period, expire on June 30 of each odd-numbered year. Grade III and IV operators must earn 2 units, or 20 contact hours per certificate, every 2 years to renew. All other operators must earn 1 unit, or 10 contact hours per certificate, every 2 years</p>	<p>References ABC's NTKC</p>

Program and website: Department of Natural Resources - <https://programs.iowadnr.gov/opcertweb/pages/opmenu.aspx>

Water – Kansas			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p>Systems are classified based on source, population, and complexity of treatment. (Population served in parentheses)</p> <p>Small System: Distribution system only (all) or chlorination of ground water (<501)</p> <p>Class I: Chlorination of ground water (501 - 1,500) or treatment of ground water (<501)</p> <p>Class II: Chlorination of ground water (1,501 - 5,000), treatment of ground water (501 - 2,500) or treatment of surface water (<2,501)</p> <p>Class III: Chlorination of ground water (5,001 - 20,000), treatment of ground water or surface water (2,501 - 10,000)</p> <p>Class IV: Chlorination of ground water (>20,000), treatment of ground or surface water (>10,000)</p> <p>OIT status is awarded to people who pass the exam but do not have required experience.</p>	<p>All operators must have an HSD or GED, be employed at a PWS, and accrue points based on education, experience, and training for each system class:</p> <p>HSD or GED: 12 points 2-year environmental technology degree: 6 points College: 1 point/year 10-hour course: 0.25 points California State University correspondence course: 1 point Semester course (54 hours): 1.5 points</p> <p>Point requirements:</p> <p>Small System: 12.5 points, 6 months of experience Class I: 13 points, 1 year of experience Class II: 14 points, 1 year of experience Class III: 16 points, 2 years of experience Class IV: 18 points, 2 years of experience</p>	<p>Certificates are valid for 2 years.</p> <p>In order to renew, all operators (except small system operators) must complete a minimum of 10 hours of training.</p> <p>Small system operators must complete 5 hours of training during each 2-year period.</p> <p>KDHE sends a renewal reminder to operators 60 days prior to certificate expiration. Following the expiration date, operators are no longer permitted to operate and are removed from the database.</p>	<p>Has their own NTKC for the following categories:</p> <p>Kansas Small System Water Operator Kansas Class I Water Operator Kansas Class II Water Operator Kansas Class III & IV Water Operator</p> <p>Has a list of approved training providers. AWWA is on that List.</p> <p>KDHE recommends the water and wastewater training manuals published by the University of California-Sacramento.</p> <p>KDHE also has Kansas Small Water and Wastewater Manuals</p>

Program and website: Department of Health - <http://www.kdheks.gov/water/www.html>

Reciprocity – is awarded on a case-by-case basis. KWEA is a member of the Association of Boards of Certification (ABC) and maintains reciprocity with the ABC. In almost all cases, we honor certificates issued by states whose examinations are also reciprocal with ABC. If you have a certificate from an ABC-certified state, you can probably obtain a KWEA certificate. For states not reciprocating with ABC, reciprocity will not be awarded.

Wastewater – Kansas			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No requirements for collection systems were identified</p> <p><u>Wastewater Treatment</u> Classified Small System and I-IV</p> <p>Small system - Non-overflowing Wastewater Ponds Class I. Any Secondary Facility** Or Overflowing Wastewater Ponds, pop <1,001 Class II 1. Any Secondary Facility** Pop 1,001-5,000 Class III Any Secondary Facility**, Advanced pop 5,001-25,000 or Specialized Facility** <=5,000 Class IV 1. Any Secondary Facility**>25,000 Or Advanced or Specialized Facility***, >5,000</p>	<p>1) Currently own or be employed by a water supply system or wastewater treatment facility. 2) Have a high school diploma or GED. 3) Have acquired the minimum number of years of experience for the class of examination desired. 4) Have acquired the minimum number of points for the class of examination desired. Points are awarded based on experience, education, and training.</p> <p>Class Points* Years of Experience Small System 12.5Points, 6 months, exp Class I 13 points, 1 year exp Class II 14 pts 1 year exp Class III 16 pts 2 years exp Class IV 18 points 2 years exp</p>	<p>Certificates are valid for 2 years. In order to renew, all operators (except small system operators) must complete a minimum of 10 hours of training. Small system operators must complete 5 hours of training during each 2-year period.</p> <p>KDHE sends a renewal reminder to operators 60 days prior to certificate expiration. Following the expiration date, operators are no longer permitted to operate and are removed from the database.</p>	<p>Kansas Small System Wastewater Operator Kansas Class I - IV Wastewater Operator</p> <p>KDHE recommends the water and wastewater training manuals published by the University of California-Sacramento.</p> <p>KDHE also has Kansas Small Water and Wastewater Manuals</p>

Program and website: Department of Health - <http://www.kdheks.gov/water/www.html>

Water – Kentucky			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classified based on population served: Class I: < 1,500 Class II: ≥ 1,500 to < 15,000 Class III: ≥ 15,000 to < 50,000 Class IV: ≥ 50,000</p> <p><u>Water Treatment</u></p> <p>(Class I, II, III, or IV) with 2 subclasses for treatment type (A or B). Classifications of treatment plants are based on the following assigned design capacity: Class I: < 50,000 GPD Class II: ≥ 50,000 to < 500,000 GPD Class III: ≥ 500,000 to < 3,000,000 GPD Class IV: ≥ 3,000,000 GPD</p> <p>Combined treatment and distribution classifications also exist for Class I and II systems: Class IA-D, Class IB-D, and Class IIB-D.</p>	<p>Applicants must score ≥ 70 percent on a class-specific exam. All water treatment and water distribution operators are divided into Classes I, II, III, or IV, each with 12 subclasses. Operators must have a HSD or GED and: Class I: 1 year of experience Class II: 2 years of experience Class III: 3 years of experience Class IV: Bachelor’s degree from an accredited college and 1 year of experience Experience can be substituted for education, and education may be substituted for experience (except for 1 year of base experience). No substitutions for Class I or IV.</p>	<p>Certificates must be renewed every 2 years and expire on June 30 of even-numbered years. Certifications terminate if not renewed on or before December 31 of the year the certification expired. Operators must meet continuing education requirements during the 2 year period immediately prior to the certificate expiration date. Class I and II: 12 hours of training Class III and IV: 24 hours of training If an operator holds more than one certificate, he/she is only required to obtain the training hours for the higher certificate.</p>	<p>Offers their own study manuals, Distribution Math Review Distribution System Operator Certification Manual Rev. 2/12/2013 Drinking Water Treatment and Distribution Formula and Conversion Sheet Groundwater Practice Quiz Groundwater Treatment Operator Certification Manual Rev. 12/03/2014 Surface Water Treatment Math Review Surface Water Treatment Practice Quiz Surface Water Treatment Operator Certification Manual Rev. 4/5/2017</p>

Program and Website: Department of Environmental Protection - <http://dca.ky.gov/certification/Pages/default.aspx>

Reciprocity: Operators who hold a valid certificate in a state, territory, or possession of the United States other than Kentucky, may apply for a Kentucky certification without examination by submitting a form and the appropriate fee. Evaluated on a case-by-case basis.

Wastewater – Kentucky			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No requirements were identified</p> <p><u>Wastewater Treatment</u> Certification is for an operator may have primary responsibility for a wastewater treatment plant or collection systems. Operators that do not have primary responsibility may be one class lower. Class I - design capacity less than or equal to 50,000 gallons per day Class II Treatment certification - less than or equal to < two (2) million gallons per day. Class III - 2-7.5 MGD Class IV > 7.5 MGD</p> <p>Limited certification. - Primary responsibility for a school wastewater treatment plant and collection system.</p>	<p>Limited – No education or experience requirement Applicants must score ≥ 70 percent on a class-specific exam. All water treatment and water distribution operators are divided into Classes I, II, III, or IV, each with 12 subclasses. Operators must have a HSD or GED and: Class I: 1 year of experience Class II: 2 years of experience Class III: 3 years of experience Class IV: Bachelor’s degree from an accredited college and 1 year of experience Experience can be substituted for education, and education may be substituted for experience (except for 1 year of base experience). No substitutions for Class I or IV.</p>	<p>Limited, Class I and Class II 12 hours Class III and Class IV 24 hours Class I-OIT and Class II-OIT 12 hours Class III-OIT and Class IV-OIT 24 hours</p>	<p>Wastewater Collection Formula and Conversion Sheet Wastewater Collection Math Review Wastewater Collection System Operator Certification Manual Rev. 4/20/2015 Wastewater II-IV Pie Chart Wastewater Treatment Math Review Wastewater Treatment Formula and Conversion Sheet Wastewater Treatment Plant Operator Certification Manual Rev. 4/5/2017 Test Strategies</p>

Program and website: Department of Environmental Protection - <http://dca.ky.gov/certification/Pages/Wastewater.aspx>

Water – Louisiana			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<u>Distribution Systems and Water Treatment</u> Systems are classified by water production, water distribution, and water treatment, and then by the size of the population served: Class 1: < 1,000 Class 2: 1,001 - 5,000 Class 3: 5,001 - 25,000 Class 4: > 25,000	All operators must have an approved HSD or GED and pass a written exam with a score of 70 percent or higher. Operators are eligible for different classes of operation based on a point system that takes into account experience, education, and training: http://new.dhh.louisiana.gov/assets/oph/Center-EH/operator/Points.pdf	Certifications are valid for 2 years. Renewal is contingent upon completion of a minimum of 16 contact hours of training for one or two certificates for the 2-year period, or a minimum of 24 hours in the 2-year period for all three certificates. Limited certificates shall be renewable upon application provided the requirements for renewal without reexamination for certificates of the grade are satisfied	Provides their own state specific NTKC Need To Know - Water Distribution Need To Know - Water Production Need To Know - Water Treatment University of California at Sacramento Treatment Manuals

Program and Website: Department of Health - <http://new.dhh.louisiana.gov/index.cfm/page/416>

Reciprocity: Reciprocity shall be granted at the discretion of the committee of certification, without examination, to holders of comparable certificates issued by other states, territories, or possessions of the United States. The applicant for a certificate under the reciprocity clause must submit his application on an official application blank, obtainable from the administrator.

Wastewater – Louisiana			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<u>Collection Systems and Wastewater Treatment</u> Certifications are required for wastewater treatment and collection systems based on system size: Class 1: < 1,000 Class 2: 1,001 - 5,000 Class 3: 5,001 - 25,000 Class 4: > 25,000	All operators must have an approved HSD or GED and pass a written exam with a score of 70 percent or higher. Operators are eligible for different classes of operation based on a point system that takes into account experience, education, and training: http://new.dhh.louisiana.gov/assets/oph/Center-EH/operator/Points.pdf	The Rule states that; “ a minimum of 16 contact hours is required for renewal of any certifications held in wastewater categories”. If you hold one (1) certification you are required to have 16 contact hours for recertification every two years. If you hold two (2) certifications you are required to have 16 contact hours for recertification every two years.	Provides their own state specific NTKC Math Sheet Need To Know - Wastewater Collection Need To Know - Wastewater Treatment University of California at Sacramento Treatment Manuals

Program and website: Department of Health - <http://new.dhh.louisiana.gov/index.cfm/page/416>

Water – Maine			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classified according to population served: Class I: ≤ 1,500 Class II: 1,501 - 15,000 Class III: 15,001 - 50,000 Class IV: ≥ 50,001</p> <p><u>Water Treatment</u> Classified as: Very Small Water System (VSWS) (if population served is less than 500), Class I, Class II, Class III, and Class IV according to a point system that takes into account treatment complexity, population served, flow, water supply sources and facility characteristics.</p> <p>Operators are classified according to the system they are qualified to operate.</p>	<p>Applicants must have an HSD or GED and pass an ABC exam for the class of system for which they will be certified and have at least the following experience: VSWS: 6 months in VSWS or higher, or 1 year related experience Class I: 1 year at Class I or higher, or 2 years related experience Class II: 2 years at Class I or higher, or 4 years related experience Class III: 3 years at Class I or higher, or 6 years related experience Class IV: 4 years at Class I or higher, or 8 years related experience OIT status is awarded to people who pass the exam but do not have required experience.</p>	<p>Certificates are valid for 2 years and must be renewed within 60 days of expiration. Renewal is contingent upon completion of a designated number of training contact hours: VSWS: 6 hours Class I: 12 hours Class II: 18 hours Class III: 24 hours Class IV: 24 hours</p>	<p>Uses ABC testing but does not provide a link to ABC NTKC.</p> <p>Provides a list of certificated training providers.</p>

Program and website: Division of Environmental Health - <http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/waterOperators.shtml>

Reciprocity - Water operators certified or licensed by other state or provincial certification authorities most often are recognized. Each person's education and experience are evaluated. Licenses or certificates from states with similar examination requirements may not require re-examination.

Wastewater – Maine			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Voluntary program through NEWEA</p> <p><u>Wastewater Treatment</u> Grades I-V Biological Treatment, Grade I-III Physical/Chemical Treatment, or Spray Irrigation Treatment System according to population equivalents or type of treatment</p> <p>Size (P.E.) Up to 5,000 5,000 to 15,000 15,000 to 50,000 50,000 and over</p> <p>Secondary- Biological Advanced Treatment Other Defined Treatment</p> <p>Types of certifications B = Systems utilizing biological means of treatment; P/C = Systems utilizing physical or chemical means of treatment; or, SITS = Systems using spray irrigation as the means of treatment</p>	<p>Certification for each operator Grade I-V Biological, Grade I-III Physical/Chemical or Small or Large Spray Irrigation Treatment Systems is based on education and experience. There are provisions for substituting education for experience as well as certain work experience for actual treatment plant experience.</p> <p>Provisional Certification. Graduates of the New England Regional Wastewater Institute or other equivalent programs, are eligible for Grade III or lower examination and certification.</p> <p>Grade I Operator -HSD and 2 years experience Grade II Operator - 4 years experience. Education may be substituted for 3 years experience Grade III Operator- 5 years experience. Education may be substituted for three years experience Grade IV Operator - 6 years experience, 3 of which Grade II or higher. Education may be substituted for no more than 3 years of experience; or Grade V Operator - 8 years experience, four of which at Grade III or higher. Education may be substituted for 4 years experience</p>	<p>Certification is renewed every two years</p> <p>Grade I-V Biological Wastewater Treatment Plant Operator Certificate, a Grade I-III Physical/Chemical Wastewater Treatment Plant Operator Certificate, or a SITS-II Spray Irrigation Treatment System Operator Certificate shall be required to show proof of completion of at least 18 clock hours of training during the biennial period. No more than 6 hours of safety training may be used to comply with this requirement.</p> <p>SS-1 Spray Irrigation Treatment System Operator Certificate is required to show proof of completion of at least 6 clock hours of training during the period that their current certificate was in effect before the certificate may be renewed for the next biennial period</p>	<p>ME Wastewater Treatment Study Guides</p> <p>Operation of Wastewater Treatment Plants, Volume 1 (The Sacramento Course) Water Environment Federation (formerly the Water Pollution Control Federation) Manuals of Practice</p>

Program and website: Maine Department of Environmental Protection: <http://www.maine.gov/dep/water/wwoperator/index.html>

Water – Maryland			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Class D: Water distribution</p> <p><u>Water Treatment</u> Systems are classified based on the type of treatment provided: Class 1: Disinfection (chlorination) Class 2: Chemical treatment (chlorination, pH control and fluoridation) Class 3: Simple iron removal (chlorination, pH control, fluoridation, filtration and iron removal utilizing ion exchange or contact oxidation processes) Class 4: Complete treatment (chlorination, pH control, fluoridation, aeration, coagulation, sedimentation, filtration and complex iron removal) Class 5: Site-specific (any alternative technological plants not covered under the classification system) Class G: No chemical treatment (well, storage tanks, or UV disinfection)</p>	<p>Each applicant for certification must have an HSD or GED, minimum experience specified by the level of certification sought and take an exam that is provided by the ABC. A passing score is at least 69.5%. OITs with temporary certification must work under a certified operator.</p> <p>Training Programs for Operators/Superintendents Maryland Board of Waterworks and Waste System Operators – Superintendent Certificate Operator Certificate holders who are appointed by their employer as the facility's "Designated Superintendent" should use this form to apply for Superintendent Certification.</p>	<p>The triennial renewal requires completion of a specified number of hours of Board-approved training, noted below. Each hour of training is equal to 1.5 units, once an attendee passes the exam for the course.</p> <p>Class D: 16 hours Class G: 7 hours Class 1: 16 hours Class 2: 16 hours Class 3: 30 hours Class 4: 30 hours Class 5: Determined by the Board</p> <p>For Classes 3, 4, and 5, a minimum of 50 percent of the training units submitted for issuance or renewal of a certificate shall be process related.</p>	<p>Using ABC examinations but does not provide a link to ABC's site. ABC NTKC</p> <p>Provides links to training resources, providers, on-line training, and videos. Does not identify manuals or specific NTKC.</p>

Program and Website:

http://mde.maryland.gov/programs/water/water_supply/Pages/OperatorInformation.aspx/Pages/OperatorGuidance.aspx

Reciprocity -- Maryland's certification regulations allow the Board to grant Operator Certificates to out-of-state applicants without requiring applicants to take Maryland certification examinations. Out-of-state certificate and examination must both be substantially equivalent to those that you are requesting through reciprocity.

Wastewater – Maryland			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<u>Collection Systems</u> Class 1 and 2 <u>Wastewater Treatment Systems</u> are classified Class 1 Lagoons Class 2 Physical/Biological treatment Class 3 Package Activated Sludge Plants Class 4 Trickling Filters Rotating Biological Contactors (RBC) Class 5 Activated Sludge Class 6 Site Specific S Solids Handling A Advanced Wastewater Treatment	A minimum of a high school education and six months to three years of related work experience (varies according to the specific work certification) and passing the appropriate written examination	The triennial renewal requires completion of a specified number of hours of Board approved training (seeCOMAR26.06.01.13). There are additional education, experience, and examination requirements for superintendent certification	It is not clear if ABC or state specific exams are used for wastewater. No NTKC are identified. The State of Maryland offers training classes in various locations around the state for prospective or current water treatment operators. The price for training classes depends on each program. Recommended training programs Maryland Rural Water Association, Maryland Center for Environmental Training and DelTech Environment Training Center Program Delaware Technical Community College.

Program and website: Department of the Environment - <http://mde.maryland.gov/programs/Permits/EnvironmentalBoards/Pages/BWW.aspx>

Water – Massachusetts			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classified according to population served: Very Small Systems (VSS): ≤ 500 1D: 501 - 1,500 2D: 1,501 - 15,000 3D: 15,001 - 50,000 4D: ≥ 50,001</p> <p><u>Water Treatment</u> Classified according to a point system, based on complexity of treatment: Grade 1-4 T.</p> <p>There is also a very small system (VSS) classification.</p>	<p>All applicants must pass an exam and must have an HSD or GED. Applicants for Grade 2 or higher level exams must satisfactorily complete training requirements in order to sit for the exams. Grade 2 or higher level distribution exams require applicants to complete a Basic Distribution Training Course approved by the Board. Grade 2 treatment exams require applicants to complete a Basic Treatment Training Course approved by the Board. Grade 3 or 4 treatment exams require applicants to complete an Advanced Training Course approved by the Board.</p> <p>Minimum experience requirements: VSS: 6 months of experience operating a VSS Grade 1: 2 years of experience operating a Grade 1 system Grade 2: 3 years of experience operating a Grade 2 system; or a Grade 1 Full certificate with 1 additional year experience operating a Grade 1 or higher system after certification Grade 3: 5 years of experience operating a Grade 3 system; or a Grade 2 Full certificate with 2 additional years of experience operating a Grade 2 or higher system after certification Grade 4: A certificate of competency in water treatment technology or 1 or more years of college with 5 years of experience operating a Grade 4 system; or a Grade 3 Full certificate with 1 additional year experience operating a Grade 3 or higher system after certification.</p> <p>Education may be substituted for experience in all grades.</p>	<p>Certificates must be renewed every 2 years. During this 2-year period, operators must accumulate the required number of Training Contact Hours (TCH): VSS: 5 or more Grades 1 and 2: 10 or more TCH Grade 3: 15 or more TCH Grade 4: 20 or more TCH</p> <p>Acceptance of education, training or service completed by applicant as member of armed forces toward qualification requirements to receive license or certification; validity of license or certificate during active service of holder; expedited licensing of spouse of member of armed services; waiver of Commonwealth's fees.</p>	<p>Mass uses ABC testing but does not provide a link to the NTKC.</p> <p>Training requirements and detailed course outlines for course on distribution systems and water treatment are provided.</p> <p>References manuals from: California State University, Sacramento, National Environmental Service Center, and American Water Works</p>

Program and website: Board of Certification of Operators of Drinking Water Supply Facilities <https://www.mass.gov/drinking-water-supply-facility-operator-license>

Reciprocity - An applicant holding a license in another state may be granted reciprocity in Massachusetts if the applicant's license in the other state is in good standing, the other state is a member of ABC and can verify that the applicant passed an ABC exam, and the applicant meets the education and experience requirements for the license being applied for in Massachusetts.

Wastewater – Massachusetts			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No certification program for collection systems was identified</p> <p><u>Wastewater Treatment</u> Municipal wastewater facilities are rated based on a point scale. Systems may be classified as: 1M, 2M, 3M, 4M or 5, 6, or 7 for large or complex facilities</p> <p>Municipal – Grades 1 through 4</p> <p>Combined certification, at Grades 5C and 6C, allows an operator to work in either municipal or industrial treatment facilities.</p> <p>Operator-in-Training Status. Upon passing an examination, the Board shall review the applicant's experience, education and training. If the applicant is working at a wastewater treatment facility but does not meet the experience qualifications</p>	<p>Grade 1: 1 year Education may be substituted for not more than six months of experience.</p> <p>Grade 2: 3 years of experience Education may be substituted for not more than 2 years</p> <p>Grade 3: 5 years of experience Education may be substituted for not more than 3 years of experience.</p> <p>Grade 4: 6 years of experience. Education may be substituted for not more than 4 years of experience.</p> <p>Grade 5: 6 years of experience Education may be substituted for not more than 4 years of experience.</p> <p>Grade 6: 7 years of experience Education may be substituted for not more than 5 years of experience.</p> <p>Grade 7: possess at least 8 years of experience Education may be substituted for not more than 5 years of experience</p>	<p>Annual renewal.</p> <p>Ten or more Training Contact Hours in the previous calendar year.</p>	<p>NEIWPCC is also responsible for the Massachusetts wastewater operator certification examinations. Beginning in July 2009, NEIWPCC is working with ABC and the Massachusetts Board of Certification. No NTKC is provided.</p> <p>NEIWPCC does provide a list of training references</p>

Program and website: New England Interstate Water Pollution Control Commission, <http://neiwppcc.org/learning-center/massachusetts-wastewater-operator-training-certification/>

Water – Michigan			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To- Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classified according to population served, from Class S-1 to Class S-5: S-1: CWSs serving > 20,000 S-2: CWSs serving 4,000 - 20,000 S-3: CWSs serving 1,000 - 4,000 S-4: CWSs serving < 1,000 S-5: NTNCWSs or CWSs with no treatment and limited distribution system</p> <p><u>Water Treatment</u> Classified as Class D (limited treatment) or F (complete treatment): D/F-1: For CWSs serving > 20,000 or with a rated treatment capacity (RTC) > 5 MGD D/F-2: For CWSs serving 4,000 -20,000 or with an RTC of 2-5 MGD D/F-3: For CWSs serving 1,000 -4,000 or with an RTC of 0.5-2 MGD D/F-4: For CWSs serving < 1,000 or with an RTC of < 0.5 MGD D/F-5: Noncommunity supplies Systems may be placed into a different classification based on the complexity of treatment performed within the plant.</p>	<p>Applicants must meet education and experience requirements, which vary according to system classification, and pass an exam. An applicant must have a certain number of points (determined by education level and experience level) and take the required exams for each system.</p>	<p>Certificates must be renewed every 3 years.</p> <p>To qualify for renewal, operators must accumulate approved training or continuing education hours: Levels 1, 2, and 3: 24 or more hours of which 18 hours must be technical or managerial training Level 4: 12 or more hours of which 6 hours must be technical or managerial Level 5: 9 or more hours with no categorical requirement An expired certificate may be renewed within 1 year of expiration if the operator has completed the necessary prorated training/continuing education requirements for renewal.</p>	<p>Provides their own study guides for examination. Study guides are available for:</p> <p>Type I: "F" Complete Treatment: Levels 1-4 "D" Limited Treatment: Levels 1-4 "S" Distribution: Levels 1-4, F</p> <p>Type II: Level 5</p>

Program and website: Department of Environmental Quality - http://www.michigan.gov/deq/0,4561,7-135-3308_3333_4171---,00.html

Reciprocity -- An operator certificate in a comparable classification may be issued by the department, without examination, to an individual who holds a similar operator certificate in another state, a territory or possession of the United States, or another country, if the requirements for certification of operators under which the certificate was issued are comparable to the requirements.

Wastewater – Michigan			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No requirements for certification were identified</p> <p><u>Wastewater Treatment</u> Class A - population > 50,000 Class B population of 10,000 to 50,000 Class C and D - less than 10,000 Class L1 and L2 - treatment facility utilizing waste stabilization lagoon process Class SC - special classification</p>	<p>Requires written examination and classifications based upon minimum education and experience qualifications:</p> <p>Class A. College degree, Class B certificate and 4 years of experience (2 of which supervisory) or 2 years college, Class B certificate and 6 years' experience.</p> <p>Class B. To 1 year of college, Class C certificate and 4 years of acceptable (2 of which supervisory)</p> <p>Class C. High school or its equivalent, Class D certificate, 2 years experience</p> <p>Class D. High school or its equivalent., 1 year experience</p> <p>Class L2. High school or its equivalent and 1 year experience</p> <p>L1. High school or its equivalent. 1 year of</p> <p>Class SC. High school or its equivalent. 1 year of acceptable experience</p>	<p>Class A or B - 2.4 CECs (> 0.6 CECs technical training, > 0.6 CECs managerial training).</p> <p>Class C, D, L2, or L1 certificate, the certified operator shall have completed, during the renewal cycle, > 1.2 CECs of board-approved continuing education training.</p> <p>For Class C certification - no more than 0.6 CECs non-managerial, non-technical may be used</p> <p>There are no continuing education requirements for a class "SC" certificate.</p>	<p>Provides studies guides for each level of certification Exam study guide Class A Exam study guide Class B Exam study guide Class C and D Exam study guide Class L1 and L2 Exam study guide Class SC</p>

Program and Website: - Department of Environmental Quality -http://www.michigan.gov/deq/0,4561,7-135-3308_3333_79877---,00.html

Water – Minnesota			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> No information on requirements for certification were identified</p> <p><u>Water Treatment</u> Water systems are classified (Class A, B, C, D, or E) according to a point system which takes into account source water, complexity of treatment, storage capacity, number of wells, and population served. Full details are available in chapter 9400.0400 of the Minnesota Administrative Rules.</p> <p>Class E is any system comprised of a groundwater source that serves less than 500 and is in compliance with the SDWA.</p>	<p>All applicants must have an HSD or GED, pass an examination with at least a 70 percent score, and meet the following conditions:</p> <p>Class A: 2 years in management of Class A or B system, 2 years certification at Class B, and 8 years' experience; or Bachelor's degree and 4 years' experience</p> <p>Class B: 1 year certification at Class C, and 6 years' experience operating Class A, B, or C; or Bachelor's degree and 2 years' operating Class A, B, or C</p> <p>Class C: 3 years' experience operating Class A, B, or C; or Bachelor's degree and 1 year operating Class A, B, C, or D</p> <p>Class D: 1 year experience operating Class A, B, C, D, or E; or completion of postsecondary courses in water or wastewater technology</p> <p>Class E: 3 months experience operating Class A, B, C, D, or E; or completion of postsecondary courses in water or wastewater technology</p> <p>Operators may be issued a 3 year conditional certificate to allow the current operator with direct responsibility of a system to gain necessary years of experience after passing all exams required to receive certification at the facility's higher level.</p>	<p>Certificates must be renewed every 3 years, within 30 days of the expiration date. Operators must have received credit for the following number of contact hours:</p> <p>Class A: 32 hours Class B: 24 hours Class C: 16 hours Class D: 8 hours Class E: 4 hours</p> <p>At least 50 percent of these hours must be direct water operations training. Training is co-sponsored between MDH and Minnesota AWWA and Minnesota RWA.</p>	<p>Minnesota recommends reference sources. In addition there are lists available on subjects that each operator classification needs to know.</p> <p>Minnesota has state Class D and E Study Guides</p> <p>Provide links to math conversion tables Class A and B (from ABC) Class C and D (state specific)</p>

Program and website: Department of Health - <http://www.health.state.mn.us/divs/eh/water/wateroperator/>

Reciprocity – A determination will be made by the respective commissioner as to whether the applicant is eligible for certification and for what class of facility or system. The certification requirements of the other state must not be in conflict with Minnesota Statutes.

Wastewater – Minnesota			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Type S or collection system for systems that only collect, pump, and convey (not treat) wastewater</p> <p>Class S-A, population of 50,000 or more; Class S-B, population 15,000-50,000 Class S-C, population 1,500-15,000; Class S-D, population less than 1,500.</p> <p><u>Wastewater Treatment</u> There are two separate classes of wastewater facilities; treatment facilities are classified A, B, C and D according to a rated point system based on the unit processes, loading to the plant and the permit final effluent limitations.</p>	<p>Class A - Certified as a Class "B" operator for a period of 2 years, HSD or equivalent, 8 years experience (2 in management), or bachelor's degree with 4 years of experience (2 in management)</p> <p>Class B - Certified as a Class "C" operator for at least 1 year, and HSD or 6 years of experience in the operation of a Class A, B or C facility, have a bachelor's degree and 2 years of experience in the operation</p> <p>Class C - HSD or equivalent with a minimum of 3 years of experience or have bachelor's degree and 1-year experience.</p> <p>Class D- 1-year experience in the operation or satisfactorily completed a post-secondary program in water or wastewater</p> <p>Class S-A, S-B, S-C and S-D - An applicant must have a HSD or equivalent; and must possess the same education and experience required for a regular wastewater certificate in the same class.</p>	<p>Renewal period is three years.</p> <p>Continuing education requirement are: Class A and S-A = 32 hours Class B and S-B = 24 hours Class C and S-C = 16 hours Class D and S-D = 8 hours</p>	<p>Minnesota Pollution Control Agency published Need-to-Know for Wastewater Treatment Facility and Collection System Operators.</p> <p>MPCA also published a list of suggested study material for wastewater treatment and collection systems.</p>

Program and website: Minnesota Pollution Control Agency- <https://www.pca.state.mn.us/water/training-wastewater-operators>

Water – Mississippi			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> No specific distribution system certification was identified</p> <p><u>Water Treatment</u> Classification is based on the type of treatment provided by the system: Class A: Surface water treatment, lime softening, or coagulation and filtration for the removal of constituents other than iron or manganese Class B: Two or more Class C treatment facilities of different types; or with iron or manganese removal facilities breaking pressure or requiring flocculation, sedimentation, or both. Class C: Aeration, pH adjustment, corrosion control, or closed pressure type treatment facilities, including zeolite softening or iron removal Class D: No treatment other than chlorination or fluoridation or both, or direct chemical feed such as polyphosphate Class E: Purchases water and does not provide additional treatment. Responsible for O&M of distribution.</p>	<p>All operators must have an HSD or GED, take an exam and receive a score of at least 70 percent and have the following experience: Class A: A Bachelor’s degree in engineering or applied sciences from an accredited college or university with 1 year under a Class A certified operator or 6 years in a Class A or B water plant, of which 1 year must be in a Class A water plant; Class B: 3 years under a certified operator in a Class A, B, or C water plant, of which 1 year must be in a Class A or B water plant Class C: 2 years while working under a certified operator in a Class A, B, C, or D water plant, of which 1 year must be in a Class A, B, or C water plant Class D: 1 year under a certified operator with a Class D or higher license Class E: 1 year while working under a certified operator with a Class E or higher license</p>	<p>Certificates must be renewed every 3 years and may be renewed without examination. Operators who have been continuously licensed less than 9 years must complete 48 hours of related CEUs per renewal period with at least 12 hours of these CEUs in approved regulation and compliance training programs. Operators who have been continuously licensed for 9 years or more are required to complete 24 hours of related CEUs per renewal period with at least 12 hours of these CEUs in approved regulation and compliance training programs. All training must be approved by the BPWS</p>	<p>There is one reference to ABC but no NTKC is identified.</p> <p>Does provide Job Performance Guidelines for Certified Waterworks Operators.</p>

Program and Website: State Department of Health- [http://www.msdh.state.ms.us/msdhsite/ static/30,0,76,225.html](http://www.msdh.state.ms.us/msdhsite/static/30,0,76,225.html)

Reciprocity -- An applicant may be certified without examination provided that the individual has passed the appropriate class Association of Boards of Certification (ABC) examination or any state's (or other certifying authority's) examination that has been approved as equivalent by ABC. (2) Applicants for certification through reciprocity must meet the education and experience requirements for the class certificate requested as previously described

Wastewater – Mississippi			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<u>Collection Systems</u> I-C Collection only (voluntary) up to 1,000,000 GPD (1.0 MGD) II-C Collection only (voluntary) greater than 1,000,000 GPD (1.0 MGD) <u>Wastewater Treatment</u> Class I Waste Stabilization Lagoon All Septic Tank-Sand Filter Class II Aerated Lagoon All Trickleing Filter less than 300,000 GPD (0.3 MGD) Activated Sludge less than 100,000 GPD (0.1 MGD) Class III Trickleing Filter 300,000 to 3,000,000 GPD (0.3 to 3.0 MGD) Activated Sludge 100,000 to 2,000,000 GPD (0.1 to 2.0 MGD) Class IV Trickleing Filter greater than 3,000,000 GPD (3.0 MGD) Activated Sludge greater than 2,000,000 GPD (2.0 MGD)	All levels must pass the required written examination and submit professional references. Class IV (a) Bachelor's degree, one (1) year of experience in a Class IV wastewater facility or, HSD or GED and 6 years experience in a Class IV or Class III facility Class III HSD, or GED, and 3 years of experience in a Class IV, III, or II wastewater facility, or 6 years experience in a Class IV, III, or II wastewater facility, Class II - HSD, or GED and 1 year of experience in a Class IV, III, or II wastewater facility, or 3 years experience in a wastewater facility, Class I - 1 year of experience in a wastewater facility Class I-C One (1) year experience Class II-C (a)HSD, or GED, and 2 years experience or 4 years experience	Operators must receive 36 hours of related continuing education during the 3 year period for which their certification is valid. A minimum of 18 of this 36 hours must be satisfied by attending Department sponsored training. (2) Certified collection system operators must receive 18 hours of related continuing education during the 3 year period that their certification is valid. (3) Operators who have been certified for 3 consecutive 3 year periods, must receive 24 hours of continuing education during the fourth and subsequent 3 year periods for which their certificate is valid. A minimum of 12 hours must be satisfied by attending Department sponsored training, or Association sponsored Short Courses.	Provides a state specific Operations Training Manual And Exam Study Guide

Program and website: Department of Environmental Quality http://www.deq.state.ms.us/MDEQ.nsf/page/OT_opcert

Water – Missouri			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p>Distribution systems Classified DS I-III based on population served and complexity of the system.</p> <p>Water treatment Treatment systems are classified A-D, based on treatment facility complexity, source of water, type of treatment performed and, for surface water systems only, size.</p>	<p>All operators must be at least 18 years old, have an HSD or GED (which may be substituted for with 6 months of additional experience), and pass an exam (score at least 70 percent).</p> <p>Operators are required to have the following number of years of operational experience (the numbers in parentheses are the number of years that can be equivalent experience): Class A: 5.5 years (2 years) Class B: 3.5 years (1 year) Class C: 1.5 years (1 year) Class D: 6 months (all) DS-III: 3 years (1 year) DS-II: 1 year (6 months) DS-I: 6 months (all)</p>	<p>Certificates are valid for 3 years.</p> <p>Class A-C and DS-III systems, 30 hours of training is required to renew.</p> <p>Class D and DS-II operators must complete 20 hours of training.</p> <p>Class DS-I operators must complete 10 hours of training.</p>	<p>Has exam descriptions published on their website.</p> <p>Drinking Water A Drinking Water B Drinking Water C Drinking Water D Distribution System 3 Distribution System 2 Distribution System 1</p>

Program and website: Department of Natural Resources, <https://dnr.mo.gov/env/wpp/opcert/oprtrain.htm>

Reciprocity - Individuals having valid certification issued by another state or country, or its authorized representative, having examination, experience and renewal requirements equal to or more stringent than those of the department, as determined by the department, will be granted a certificate of competency provided that the applicant has working experience with a wastewater treatment system in the state or other authorized area that supplied the certification for which reciprocity is requested.

Wastewater – Missouri			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No requirements for certification were identified</p> <p><u>Wastewater Treatment</u> Facilities are classified on a point system to Level D, C, B, A with A being the most complex</p>	<p>Assessment of applicant qualifications shall include the following criteria: In-Plant Actual Operating Certification Experience Level Required</p> <p>Level A - 6 years (2 years of which may be equivalent) Level B - 4 years (1 year of which may be equivalent) Level C - 2 years (1 year of which may be equivalent) Level D - 1 year (all of which may be equivalent)</p> <p>(I) Years of equivalent experience shall be Computed for high school and college Degrees. HSD or GED 1/2 year graduation from approved 1-year certificate program in water/wastewater technology 1 year college level courses in biological/ environmental sciences (grade C or better required)ó maximum credit of 6 months 1 month per 3 semester hours 2-year associate degree in allied field (for example, environmental health/science, biology, chemistry) 1 1/2 years 4-year college degree in allied fields (for example environmental sciences, biology, chemistry and engineering) 2 years Approved multi-week entry level, advanced or correspondence courses with maximum credit of 1 year 1/2 year</p>	<p>Shall be renewed at least every 3 years, 30 hours of approved renewal training</p>	<p>Draft Wastewater NTKC Wastewater Treatment Level A Wastewater Treatment Level B Wastewater Treatment Level C Wastewater Treatment Level D</p>

Program and website: Department of Natural Resources, <https://dnr.mo.gov/env/wpp/opcert/oprtrain.htm>

Water – Montana			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution systems</u> Classified by population served: Class 1: > 15,000 Class 2: 1,501 to 15,000 Class 3: 500 to 1,500 Class 4: Fewer than 500</p> <p><u>Treatment systems</u> Class 1: Surface water using chemical coagulation, filtration, and disinfection Class 2: Surface water not using chemical coagulation Class 3: Ground water serving more than 500 with or without disinfection Class 4: Ground water serving fewer than 500 with or without disinfection</p>	<p>Must hold an HSD or equivalent, unless granted an exception by the DEQ.</p> <p>Must pass the certification examination for the operator's specific classification with a grade of 70 or above. A person who has passed the examination but lacks the requisite experience will be issued a certificate as CERTIFIED OPERATOR-IN-TRAINING. When the experience requirement is fulfilled, and the operator submits a verified experience voucher, a certificate as CERTIFIED OPERATOR will be issued.</p> <p><u>Required experience:</u> Class 1: 2.5 years Class 2: 2.0 years Class 3: 1.5 years Class 4: 1.0 year</p>	<p>Certificates are valid from July 1 for 1 year.</p> <p>Certified operators must earn continuing education credits (based on Class) during each 2-year period beginning on July 1 of each even-numbered year. 1 credit = 10 contact hours.</p> <p>Class 1: 2.0 credits per certificate held (water or wastewater)</p> <p>Class 2, 3, 4: 1.0 credit per certificate held (water or wastewater)</p> <p>Certified OIT: 0.2 credits for the certificate held.</p>	<p>The department is switching from Montana-specific examinations to standardized examinations.</p> <p>The standardized examinations are through the Association of Boards of Certification (ABC) testing.</p> <p>Montana has revised its classification system to incorporate key provisions of the ABC system, yet still preserve Montana-specific requirements.</p>

Program and Website: Montana Department of Environmental Quality; found at: <http://deg.mt.gov/Water/WQINFO/opcert>;

Reciprocity: Reciprocity certification must show that they have met certification requirements which are at least equivalent to the Montana requirements. See details at: <http://deg.mt.gov/Water/WQINFO/opcert/reciprocity>

Wastewater – Montana			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p>Wastewater Treatment</p> <p>Class 1C --Secondary and advanced (tertiary) treatment</p> <p>Class 2 – no Class 2</p> <p>Class 3C -- Secondary treatment provided by aerated lagoons or lagoons not utilizing artificial aeration.</p> <p>Class 4 – no Class 4</p> <p>Note: The wastewater mechanical treatment plant classes will be combined into one class (designated 1C). In addition, the wastewater lagoon treatment plant classes will be combined into one class (designated 3C).</p>	<p>Must hold an HSD or equivalent, unless granted an exception by the DEQ.</p> <p>Must pass the certification examination for the operator's specific classification with a grade of 70 or above.</p> <p>Applicants who pass their examinations before completing experience requirements are certified as operators-in-training and hold Operator-In-Training (OIT) Certificate.</p> <p>Experience requirements: OIT: none Class 1: 2.5 years Class 3: 1.5 year</p>	<p>Certificates are valid from July 1 for 1 year.</p> <p>Certified operators must earn continuing education credits (based on Class) during each 2-year period beginning on July 1 of each even-numbered year. 1 credit = 10 contact hours.</p> <p>Class 1: 2.0 credits per certificate held (water or wastewater)</p> <p>Class 2, 3, 4: 1.0 credit per certificate held (water or wastewater)</p> <p>Certified OIT: 0.2 credits for the certificate held.</p>	<p>The department is switching from Montana-specific examinations to standardized examinations through the Association of Boards of Certification (ABC). NTKC of the wastewater study guides provided by the DEQ Operator Certification Program. includes: Wastewater Characteristics and Terminology, Mathematical Concepts and Formula, Wastewater Treatment Technology, Operation and Maintenance, Safety and Environmental Regulations.</p> <p>Montana has revised its classification system to incorporate key provisions of the ABC system, yet still preserve Montana-specific requirements.</p>

Program and Website: Montana Department of Environmental Quality; found at: <http://deq.mt.gov/Water/WQINFO/opcert>

Water – Nebraska			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems and Water Treatment</u> Systems are classified as follows: Class I: Serves over 15,000 people and filters its raw water, or serves over 50,000 people Class II: Serves between 2,000 and 15,000 people and filters, or serves between 15,000 and 50,000 people Class III: Serves fewer than 2,000 people and filters, or serves between 2,000 and 15,000 people, or CWSs that purchase water in whole or in part to serve more than 15,000 people Class IV: Serves fewer than 2,000 people and no filtration, or CWSs that purchase water to serve fewer than 15,000 people Class V: All other water supply systems including TNCWSs Operators must obtain a Grade I – V license.</p>	<p>Qualifications are sequential and build from the previous grade, beginning with Grade IV. All operators must meet general requirements, including age, academic, physical, and character requirements.</p> <p>Must pass the grade-specific exam, provide documentation of having passed the exam of the previous grade, and meet other grade-specific requirements, including level of education and years of responsible charge or demonstrated competency.</p> <p>Provisional: This license may be issued for Grade I – IV license while experience is being acquired. All education, training substitutions, and experience requirements for Grade must be met during provisional period.</p>	<p>Licenses expire every odd year on December 31.</p> <p>For renewal, operators must have at least 10 hours of continuing education.</p> <p>Grade V operators do not need to complete continuing education or renewal requirements.</p>	<p>No standardized national exams.</p> <p>No specific NTKC provided, but for certification exam preparation, the following are indicated as required books:</p> <p>For Grades 3 and 4 California State University, Small System Operation and Maintenance (5th edition) California State University, Distribution System Operation and Maintenance (6th edition)</p> <p>For Grades 1 and 2 California State University, Water Treatment Plant Operation, Volume 1, 6th edition California State University, Water Treatment Plant Operation, Volume 2, 5th edition</p>

Program and Website: Nebraska Department of Health and Human Services. <http://dhhs.ne.gov/publichealth/pages/crlWaterOpLicReqsFees.aspx>;

Reciprocity: Not allowed

Wastewater – Nebraska			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No certification.</p> <p><u>Wastewater Treatment</u> Classified based upon complexity of treatment, population equivalent served, downstream water course conditions, and potential health hazards in accordance with the point rating system.</p> <p><u>Class I</u> - Lagoon facilities -- 15 points or less <u>Class II</u> - Wastewater Treatment Facilities -- 30 points or less <u>Class III</u> - Wastewater treatment facilities that are awarded 31 points or more, but less than 56, <u>Class IV</u> - Wastewater treatment facilities awarded 56 points or more, but less than 76, <u>Class V</u> - Wastewater treatment facilities which are awarded 76 points or more.</p> <p>For more information, go to Facility Ratings Fact Sheet.</p>	<p>Must attain a minimum grade of 70% to pass respective certification test.</p> <p>New/promoted employees have up to 12 months (from hiring date) to obtain the required level of certification of the position, provided employee takes the certification exam once within six months of hiring or promotion.</p> <p>Class I, Class II - 1 year of work experience in a wastewater treatment facility; high school education/equivalent may be substituted for 1 year of experience.</p> <p>Class III - 2 years of experience; high school education/equivalent may be substituted for 1 year of experience; 2 years of college/technical school or education related to wastewater facility operation and design may be substituted for 2 years of work experience.</p> <p>Class III, Class IV - 4 years of experience with at least 2 years in a Class III or Class IV; a 4-year college degree may be substituted for 3 years of experience; 2 years of college or technical school or equivalent education related to the wastewater facility operation and design may be substituted for 2 years of experience.</p>	<p>Must obtain a minimum of 20 hours (2 CEU's) of training during the 2 years prior to expiration of the certificate.</p> <p>Hours earned in excess of the required 20 hours earned in a two-year interval may be carried over into the next two-year interval up to a maximum amount of 10 hours (1 CEU).</p> <p>A list of the total continuing education hours earned and eligible for certificate renewal in the current certificate renewal cycle for each operator is maintained by the Department.</p>	<p>Use ABC for examination process, both preparation and conduct of the exams.</p>

Program and Website: Nebraska Department of Environmental Quality; Located at <http://deq.ne.gov/NDEQProg.nsf/OnWeb/WTFOCT>

Reciprocity: Certificates of an equivalent class may be issued, without examination, to any operator applying for certification who holds a valid certificate from another recognized wastewater operator certification program having requirements for certification that the Director considers similar to the standards established in the regulations.

Water – Nevada			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p>Both Distribution and Treatment facilities are classified on a point system, based on population served, source, complexity of treatment, and other characteristics.</p> <p><u>Distribution Systems</u> Using only ground water or water provided by another PWS and not providing any treatment other than chlorination. Class 1 – 5 to 19 points Class 2 – 20 to 30 points Class 3 – 31 to 42 Class 4 – 43 or more points</p> <p><u>Water Treatment</u> Use surface water or GWUDI, or use groundwater and provide treatment other than chlorination. Class 1 – 5 to 19 points Class 2 – 20 to 35 points Class 3 – 36 to 45 points Class 4 – 46 or more points</p>	<p>Applicants must be at least 18 years of age and pass an exam with at least a 70 percent score.</p> <p>Education: Class 1 and 2: HSD or GED Class 3: 2 postsecondary courses Class 4: 4 postsecondary courses</p> <p>Experience: Class 1: 6 months Class 2: 1 year Class 3: 2 years Class 4: 4 years</p> <p>Operators who pass the exam but do not meet experience requirements can receive OIT certification.</p>	<p>Certificates must be renewed by December 31 of the first calendar year after the calendar year for which they are issued.</p> <p>Class 1 and 2: 0.5 credits (5 hours) of CEUs during the 2 years immediately preceding the application renewal date.</p> <p>Class 3 and 4: 1 credit (10 hours) of CEUs during the 2 years immediately preceding the application renewal date.</p> <p>OIT certifications expire on December 31 of the first calendar year after the calendar year in which they are issued and cannot be reinstated.</p>	<p><i>Utilizes ABC and AWWA (CA/NV) for examinations, and provides links to exam preparation materials that are tied to both ABC and the Sacramento programs.</i></p> <p>Exam Information Water Certification Exam Dates Alternate Examination Options AWWA ABC Study Materials Certification Study Resources</p>

Programs and Websites: Nevada Department of Environmental Protection - www.ndep.nv.gov/bsdw/cert_home.htm;

Reciprocity: A certificate may be issued by the Division, without examination, on a case-by-case basis to a person in a comparable classification who has passed an adequate written examination and who holds a valid certificate in another state, territory, or possession of the United States or another country if the requirements for the certification of operators are consistent with and not of a lower standard than the provisions of the established regulations.

Wastewater – Nevada			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Offered by the NWEA Board of Certification as a voluntary program.</p> <p><u>Wastewater Treatment</u> Grade I – stabilization pond less than 10 mgd; primary treatment less than 1 mgd.</p> <p>Grade II – stabilization ponds between 10 and 20 mgd; primary treatment great than 1 and less than 5 mgd; biofiltration up to 1 mgd.</p> <p>Grade III – Stabilization pond greater than 20 mgd; primary treatment between 5 and 20 mgd; biofiltration between 1 and 10 mgd; activated sludge up to 5 mgd; and tertiary treatment and reuse up to 1 mgd.</p> <p>Grade IV – Primary treatment greater than 20 mgd; biofiltration greater than 10 mgd; activated sludge greater than 5 mgd; and tertiary treatment and reuse greater than 1 mgd.</p>	<p>Must pass a written examination at each grade level.</p> <p><u>Experience and Education</u> Grade I-- HSD or equivalent & 6 CEUs (see Section XII)</p> <p>Grade II – Grade I Certification and 2 years FTE</p> <p>Grade III-- Grade II Certification and 3 years FTE</p> <p>Grade IV - Grade III Certification and 4 years FTE</p> <p><u>Collection System Certification</u> Collection System Operator experience includes time spent performing collection system operational duties.</p>	<p>Certificate valid for a period of 2 years.</p> <p>Certified individuals may voluntarily pursue continuing education and be recognized by the Certification Board with a Continuing Education Endorsement in conjunction with their certification renewal(s). The minimum voluntary continuing education requirements for each 2-year renewal period are:</p> <p>Grades I & II: 5 contact hours Grades III & IV: 10 contact hours</p>	<p>State offers pencil/paper written exams and allows operators to take on-line computerized exams (through Association of Boards of Certification (ABC)).</p> <p>NTKC is tied to both ABC and the Sacramento programs, and reference materials are referenced and recommended for exam preparation.</p>

Program and website: Nevada Department of Environmental Protection- <https://ndep.nv.gov/water/operator-certification>

Reciprocity for Wastewater Treatment and Collection System Operators: Reciprocity will be considered from applicants holding valid certificates from all certification programs in the United States and Canada.

Water – New Hampshire			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution systems</u> Classified based on population served: Grade I-A: < 500 people or 200 service connections for CWS with no fire protection, or NTNC without fire protection for any size population Grade I: ≤ 1,500 (except I-As) Grade II: 1,501 - 15,000 Grade III: 15,001 - 50,000 Grade IV: ≥ 50,001 System operators are classified according to the system they are qualified to operate. OIT status is awarded to people who meet all requirements for Grades I – III except required experience.</p> <p><u>Water Treatment</u> Classified as Grade I-A, I, II, III, or IV, based on treatment complexity, as well as population served and fire protection for Grade 1 and Grade 1-A.</p>	<p>All applicants must have an HSD or GED, be able to read and write in English, and meet physical requirements. Applicants must pass an exam with at least a 70%</p> <p>At least 50% of experience requirements must be actual operating experience in a plant or system classified at no more than one grade below the grade desired:</p> <p>Grade I-A: 6 months experience or completion of a Department sanctioned course Grade I: 1 year experience Grade II: 3 years’ experience Grade III: 2 years of post-secondary education and 4 years’ experience Grade IV: 4 years of post-secondary education and 6 years’ experience</p>	<p>Certificates must be renewed every 2 years and operators must accumulate training contact hours:</p> <p>Grade 1-A: 5 hours Grades I to IV: 20 hours</p> <p>Operators certified for both treatment and distribution need only accumulate the contact hours required for renewal of one certificate.</p> <p>TCHs are credited for subject courses offered by approved training providers.</p>	<p>Exams are provided and administered by the state; no standardized national exam. Extensive resources and links provided.</p>

Program and Website: NH Department of Environmental Services; http://des.nh.gov/organization/divisions/water/dwgb/op_cert/index.htm

Reciprocity: Consider on a case-by case basis. If an applicant has successfully passed, in another jurisdiction, the examination that is administered by the department, the department shall accept the results of that examination in lieu of requiring the applicant to take the examination again in New Hampshire.

Wastewater – New Hampshire			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No requirements were identified</p> <p><u>Wastewater Treatment</u> Classified into one of 4 grades using point systems based on: size; effluent discharge; variation in raw waste; pretreatment; primary, secondary, and advanced treatment; solids handling; disinfection; effluent post aeration and effluent flow equalization; odor control; SCADA; and laboratory control.</p> <p>Classification is determined by summing the applicable points as follows: Grade I - 30 or fewer points; Grade II - 31-55 points; Grade III - 56-75 points; and Grade IV - 75 points or greater</p> <p>Operator in training (OIT)</p>	<p>Must achieve a score of 70% correct or higher on the exam that fits the grade being sought.</p> <p>Applicants who pass the OIT exam must complete full experience requirement to receive a full grade license.</p> <p>Applicants who take the Grade 1 examination and will receive a Grade 1 license.</p> <p>Operators who pass the exam for Grades 2, 3, and 4 may be required to attend an interview with the Certification Committee as the second step of the certification process.</p> <p><u>Experience (exp) and Education (edu)</u> Grade 1-OIT – 0 yr exp., 12 yr edu Grade 1 – 1 yr exp, 12 yr edu Grade 2 – OIT – 1 yr. exp, 12 yr edu Or 0 yr exp and 13 yr edu Grade 2 – 3 yr exp and 12 yr edu Grade 3 -OIT – 2 yr exp and 14 yr edu Grade 3 – 4 yr exp and 14 yr edu Grade 4 – OIT – 4 yr exp and 14 yr edu Grade 4 – 6 yr exp and 14 yr edu</p>	<p>Certificates are renewed every 2 years and during that time, operators must earn continuing education credits as part of renewal process.</p> <p>Grades I & I-OIT -- 1.0 CEU required to renew</p> <p>Grades II and above -- 2.0 CEUs required to renew</p> <p>For reference, 1 CEU equals 10 contact hours.</p>	<p>State provides training for operators to help prepare for state-provided exams.</p> <p>No apparent links to standardized national exams.</p> <p>Extensive links to professional organizations and sources of training and education materials, including Recommended Review Materials at California State University, Sacramento, CA Office for Water Programs</p>

Program and website: Department of Environmental Services, Wastewater Engineering Board; information found at: <https://www.des.nh.gov/organization/divisions/water/wweb/opcert.htm>

Water – New Jersey			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems (W)</u> Classified based on population served:</p> <p>W-1: > 100 service connections and < 1,501 people</p> <p>W-2: 1,501 - 15,000 people</p> <p>W-3: 15,001 - 50,000 people</p> <p>W-4: > 50,000 people</p> <p><u>Water Treatment (T)</u> Classified based on a point system.</p> <p>T-1 -- 30 points or less T-2 -- 31 to 55 points T-3 -- 56 to 75 points T-4 -- 76 points and greater</p> <p>VSWS (very small water systems) serve 100 or fewer dwellings or properties and having no treatment; or NTNCWSs having no treatment, disinfection only, or some limited types of passive treatment, or both.</p>	<p>All operators must have at least a HSD or GED, pass an exam, take a course approved by the DEP, and have:</p> <p>VSWS: 6 months experience</p> <p>Class 1: 1 year experience</p> <p>Class 2: 3 years' experience, or Associate's and 2 years' experience, or Bachelor's and 1.5 years' experience</p> <p>Class 3: 6 years' experience (with 3 years in DRC), or Associate's and 4 years' experience (with 2 years in DRC), or Bachelor's and 3 years' experience (with 1.5 years in DRC)</p> <p>Class 4: 10 years' experience (with 4 years in DRC), or Associate's and 7 years' experience (with 3 years in DRC), or Bachelor's and 5 years' experience (with 2 years in DRC).</p>	<p>Certification is valid from the date it is received until the next September 30th and must be renewed every year thereafter by September 30. The number of Training Contact Hours (TCHs) required every three years for each license is as follows:</p> <p>VSWS: 12 TCHs</p> <p>Class W-1, W-2, T-1, and T-2: 18 TCHs</p> <p>Class W-3, W-4, T-3, and T-4: 36 TCHs</p>	<p>State administers exams (three times per year) and are not linked to national standardized options.</p> <p>No NTKC is provided, however, operators are must take required courses before taking the examinations.</p> <p>Required use of approved training manuals from California State University, Sacramento.</p>

Program and Website: Department of Environmental Protection; <http://www.nj.gov/dep/exams/wsw.htm>

Reciprocity: Individuals holding licenses issued by other State(s) may apply to New Jersey's Board of Examiners to be granted a New Jersey license. The applicant must meet the minimum NJ education and experience requirements for the license sought and have passed an examination that is deemed equivalent to a New Jersey exam. Also, New Jersey may only grant reciprocity for another State's license if that State grants reciprocity to New Jersey licensees. Please contact the Bureau of Licensing & Registration at (609) 777-1012 if you require further information about this process.

Wastewater – New Jersey			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems (C)</u> Based on population served:</p> <p>C1 -- 251 to 1,500 C2 -- 1,501 to 15,001 C3 -- 15,000 to 50,000 C4 -- 50,001 or greater</p> <p><u>Wastewater Treatment (S)</u> Based on a system of points, which are assigned in the following areas: design flow, effluent discharge, variations in raw waste, pretreatment, primary treatment, secondary treatment, advanced wastewater treatment, solids handling, and disinfection.</p> <p>The range of points for each classification:</p> <p>S1 -- 30 points or less S2 -- 31 to 55 points S3 -- 56 to 75 points S4 -- 76 points and greater</p>	<p>All operators must have at least a HSD or GED, pass an exam, take a course approved by the DEP, and have:</p> <p>Classes S-1 and C-1 - 1 year of operating experience.</p> <p>Classes S-2 and C-2 - 3 years of operating experience; OR Associate’s degree plus 2 years; or Bachelor’s degree plus 1.5 years.</p> <p>Classes S-3 and C-3 – 6 years of experience (3 years operating and 3 years direct responsible charge); or Associate’s degree plus 4 years of experience (2 years operating and 2 years direct responsible charge); or Bachelor’s degree plus 3 years of experience (1.5 years operating and 1.5 years in direct responsible charge)</p> <p>Classes S-4 and C-4 - 10 years of experience (6 years operating and 4 years direct responsible charge); or Associate’s degree plus 7 years of experience (4 years operating and 3 years direct responsible charge); or Bachelor’s degree plus 5 years of experience (3 years experience and 2 years of direct responsible charge)</p>	<p>Certification is valid from the date it is received until the next September 30th and must be renewed every year thereafter by September 30. The number of Training Contact Hours (TCHs) required every three years for each license is as follows:</p> <p>C-1, C-2, S-1, S-2</p> <ul style="list-style-type: none"> • 18 hours (maximum of 6 hours will be accepted in Safety related training) <p>C-3, C-4, S-3, S-4,</p> <ul style="list-style-type: none"> • 36 hours (maximum of 12 hours will be accepted in Safety related training) 	<p>State administers exams (three times per year) and are not linked to national standardized options.</p> <p>No NTKC is provided, however, operators are must take required courses before taking the examinations.</p> <p>Required use of approved training manuals from California State University, Sacramento.</p>

Program and Website: Department of Environmental Protection; <http://www.nj.gov/dep/exams/wsw.htm>

Water – New Mexico			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> SW – serving 25 to 500 DS1 - 501 to 5,000 with unchlorinated groundwater (UGW) DS2 – 501 to 20,000 with SW and GW, 5,000 to 20,000 UGW DS3 - serving 20,000 or more</p> <p><u>Water Treatment</u> SW - serving 25 to 500 SWA - serving 25 to 500 with advanced treatment WS1 - serving 501 to 5,000 with groundwater production only WS2 – serving 501 to 5,000 with aeration, taste & odor control, chemical addition, chlorination, fluoridation, pressure filtration, ion exchange; serving 5,001 to 10,000 with chemical addition, chlorination, fluoridation, pressure filtration, groundwater production only. WS3 - serving 501 to 5,000 with filtration, coagulation, sedimentation, chemical precipitation; serving 5,001 to 10,000 with filtration (sand), coagulation, sedimentation, filtration, chemical precipitation, aeration, taste & odor control, ion exchange, arsenic removal, radionuclide removal; serving 10,000 to 20,000 with all processes except coagulation, sedimentation, filtration, chemical precipitation, and specialty treatment. WS4 – providing all treatment techniques to 20,000 or more people; and filtration, coagulation, sedimentation, and chemical precipitation to 10,000 to 20,000; and special treatment to 501 and above.</p>	<p>Operators must be recertified every 3 years.</p> <p>Must show completion of 30 training credits during the 3 years that the operator has been certified</p>	<p>All operators must pass the exam for the type and class of certification for which they are applying, and must have an HSD or GED.</p> <p>Operators must have the following: Class 1 and Small Systems: 1 years’ experience and 10 training credits Class 2: 2 years’ experience plus 30 training credits Class 3: 4 years’ experience plus 50 training credits Class 4: 1 year of experience as a Class 3 certificate holder plus 80 training credits</p> <p>Various amounts of education (college, vocational school, etc.) can count towards experience.</p>	<p>State has developed its own criteria and study guides for its operator certification examinations</p>

Program and Website: New Mexico Environment Department, https://www.env.nm.gov/drinking_water/dwb-utility-operator-certification-program/

Reciprocity: Is allowed and reviewed on a case-by-case basis.

Wastewater – New Mexico			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> SWW - Serving 25 to 500 people CS1 - Serving 501 to 10,000 people CS2 – Serving 10,000 or more people</p> <p><u>Treatment</u> SWW - 25 to 500 people with raw wastewater lagoons, aerated lagoons, primary treatment, primary treatment and oxidation ponds, secondary (trickling filter) SWWA - 25 to 500 with secondary (aeration), physical-chemical processes, advanced process, P and N removal WW1 - serving 501 to 20,000 or more with raw wastewater lagoons WW2 – serving 501 to 5,000 with aerated lagoons, primary treatment, primary treatment and oxidation ponds, secondary (trickling filter), and 5,001 to 20,000 plus with raw wastewater lagoons, aerated lagoons, primary treatment, primary treatment and oxidation ponds. WW3 – serving 501 to 5,000 with secondary (aeration), physical-chemical processes, advanced process, P and N removal; serving 5,001 to 10,000 with secondary (trickling filter), secondary (aeration), physical-chemical processes, P and N removal; and serving 10,000 to 20,000 with secondary (trickling filter) and physical-chemical processes. WW4 - serving 5,001 to 10,000 with advanced process; and serving 10,000 to 20,000 with advanced process and P and N removal; and serving 20,000 and more with secondary (trickling filter), secondary (aeration), physical-chemical processes, advanced process, and P and N removal.</p>	<p>All wastewater certification levels require graduation from high school or successful completion of a general equivalency diploma (GED). All individuals must successfully pass the written examination for the level of certification being sought. All individuals must successfully meet the minimum required years of experience and training credits as follows: Class 1 and Small Systems: 1 years’ experience and 10 training credits Class 2: 2 years’ experience plus 30 training credits Class 3: 4 years’ experience plus 50 training credits Class 4: 1 year experience as a Class 3 certificate holder plus 80 training credits.</p> <p>Various amounts of education (college, vocational school, etc.) can count towards experience.</p>	<p>Operators must be recertified every 3 years.</p> <p>Must show completion of 30 training credits during the 3 years that the operator has been certified.</p>	<p>State has developed its own criteria and study guides for its examinations</p>

Program and Website: New Mexico Environment Department - https://www.env.nm.gov/drinking_water/dwb-utility-operator-certification-program/

Water – New York			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Water Distribution</u> Grade D: Distribution system serving > 1,000 people or purchasing water system Grade C: Water treatment plant or distribution system serving ≤ 1,000 people A Grade D certificate is needed along with Grade A or B for operating a plant and distribution system serving >1000 people.</p> <p><u>Water Treatment</u> Grade IA: Plant > 2.5 MGD surface water or GWUDI of surface water that provides filtration Grade IIA: Plant ≤ 2.5 MGD surface water or GWUDI of surface water that provides filtration Grade IB: Plant > 2.5 MGD groundwater (excluding GWUDI of surface water) or surface water system with filtration avoidance without facilities for clarification Grade IIB: ≤ 2.5 MGD groundwater (excluding GWUDI of surface water) or surface water system with filtration avoidance without facilities for clarification</p>	<p>All operators must have at least a HSD or GED; pass the appropriate exam; and complete training courses or demonstrate equivalent training, education, experience. Operators can substitute higher education for years of experience for Grade IA or IB. Experience or relevant training, or both may be substituted for a HSD or GED for Grades C and D.</p> <p>Experience requirements: Grade IA: 10 years with 1 year at Grade IA facility plus 1 year at Grade IA or IIA facility Grade IIA: 1 year at filtration plant Grade IB: 10 years at plant, 2 years' experience a minimum of a Grade B. Grade IIB: 1 year at a treatment plant Grade C: 6 months at a minimum of a C plant Grade D: 1 year at Grade D facility</p>	<p>Operators must renew certificates every 3 years.</p> <p>Must successfully complete Continuing Education Unit (CEU) within the previous 3 years from a list of acceptable training.</p> <p>Grades A and B must complete 3.0 CEUs.</p> <p>Grade A operators must complete a 0.5 CEU laboratory refresher course as part of the total.</p> <p>Grades C and D must complete 1.5 CEUs</p>	<p>State has own operator certification exams and are not linked to a standardized national exam (like ABC).</p> <p>Website does provide recommendations for Approved Water Operator Training Courses, as follows:</p> <ul style="list-style-type: none"> • Classroom-based Instructor-Led Courses • Correspondence or Web-based Courses

Program and Website: New York Department of Health, Bureau of Water Supply Protection - <https://www.health.ny.gov/environmental/water/drinking/operate/operate.htm>

Reciprocity: New York State has reciprocity with other states through the Association of Boards of Certification (ABC) Reciprocity Register. Certified operators from states that also have agreements with ABC may be certified in New York without taking an exam, provided their qualifications meet New York State standards.

Wastewater – New York			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection System</u> Voluntary based on population served) Grade 1 – 1,500 or less Grade 2 – 1,501 to 15,000 Grade 3 – 15,001 to 50,000 Grade 4 – 50,001 and greater</p> <p><u>Wastewater Treatment</u> Refers to the certification required for the chief operator based on scoring of the plant’s treatment train:</p> <p>Activated Sludge Treatment Grade 4A - score greater than 75 points Grade 3A - score between 56 and 75 Grade 2A - score between 31 and 55 Grade 1A - score of 30 points or less</p> <p>Any biological oxidation process other than activated sludge. Grade 4 - score greater than 75 points Grade 3 - score between 56 and 75 Grade 2 - score between 31 and 55 Grade 1 - score of 30 points or less</p>	<p>All operators must have at least a HSD or GED; pass the appropriate exam; and complete training courses or demonstrate equivalent training, education, experience.</p> <p>Options for Grades 1, 2, 1A, and 2A: High School Diploma or a GED.</p> <p>Options for Grades 3 and 3A:</p> <ol style="list-style-type: none"> 1. Associate in Applied Science (A.A.S.) 2. Associate in Applied Science (A.A.S.) plus 18 months of experience at a wastewater treatment plant. An Associate of Arts (AA) with 30 credit hours of math or science is equiv. to a A.A.S. 3. HSD or GED and 3 years of operating experience at a wastewater treatment plant. <p>Options for Grades 4 and 4A:</p> <ol style="list-style-type: none"> 1. Bachelor of Science 2. Bachelor of Arts with 30 credit hours of math and/or science; or 3. an "Approved Associate in Applied Science (A.A.S.)" plus 18 months of experience or 4. an Associate in Applied Science (A.A.S.) plus 3 years of experience 5. HSD or GED and 6 years of operating experience 	<p>Certificates are valid for 5 years.</p> <p><u>Collection Systems</u> Required number of contact hours every 5 years</p> <ul style="list-style-type: none"> • Grade 1 -- 10 contact hours • Grade 2 -- 20 contact hours • Grade 3 -- 30 contact hours • Grade 4 -- 40 contact hours <p><u>Treatment</u> Required to complete a minimum number of training contact hours every 5 years</p> <ul style="list-style-type: none"> • Grade 1 & 1A – 20 hours • Grade 2 & 2A – 40 hours • Grade 3 & 3A – 60 hours • Grade 4 & 4A – 80 hours <p>Training requirements include:</p> <ul style="list-style-type: none"> • Confined space awareness • O&M of WW Collection Systems – Vol 1 • O&M of WW Collection Systems – Vol 2 • NYSDEC Grade 3 Basic Supervision & Operation (or similar 30-hour course) 	<p>Uses Association of Boards of Certification (ABC) exams for wastewater treatment. Each examination covers all aspects of wastewater treatment plant operation including, but not limited to, unit operation, process control, maintenance, management, safety, and laboratory. Refer to NYSDEC’s Wastewater Treatment Operator Certification Manual.</p> <p>Voluntary Collection Systems Certification program is managed by NYWEA</p>

Program and Website: Department of Environmental Conservation - www.dec.state.ny.us/website/dow/bwcp/opcert.htm

Water – North Carolina			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Based on service connections: Class D: ≤ 100 (no fire protection) Class C: 101 - 1,000 (no fire protection) Class B: 1,001 - 3,300, or any system with < 1,000 with fire protection Class A: > 3,300 connections</p> <p><u>Water Treatment</u> Classified by a point system based on water source, treatment type, plant capacity, population served and on-site quality controls. Class D-Well is any non-community public water system with hypochlorite solution as the only treatment Facilities are classified C-A based on a point system Class C: 1-50 points Class B: 51-110 points Class A: over 110 points</p> <p>Operators are certified by grade for each system class:</p> <ul style="list-style-type: none"> • Surface (A, B, C) • Well (A, B, C, D) • Distribution (A, B, C, D) 	<p>Operators must be at least 18 years old. Qualification includes a combination of experience, education, completion of an approved training course, and passing score on the appropriate exam.</p> <p><u>Distribution</u> Grade A - one year at B or higher distribution system with B; completed A well school. Grade B – college grad (BS) or 2-yr tech. program (AS) with 6 months at B or higher; completed B well school; complete trench shoring training. Grade C - college grad (BS) or 2-yr technical program (AS) with 3 months experience at C or higher; HS grad with 6 months at D or higher; completed C well school. Grade D – HSD or equivalent with 3 months experience at distribution facility; completed D distribution school.</p> <p><u>Treatment (Surface or ground water)</u> Grade A – 1 year experience with B; completed A school. Grade B – college grad (BS) or 2-yr technical program (AS) with 6 months experience; or 1 year experience with C; completed B school. Grade C - college grad (BS) or 2-yr technical program (AS) with 6 months experience; HSD grad with 6 months experience with B; completed C school. Grade D – HSD or equivalent with 3 months experience; completed either C well or D well school.</p>	<p>Certificates must be renewed annually.</p> <p>All certificates expire on the last day of the calendar year.</p> <p>Certified operators are required to obtain 6 professional growth hours (PGHs) each year for annual renewal.</p>	<p>Exam are conducted by the state and there is no linkage to standardized national exams. Specific NTKC are not identified, but training/classes for Continuing Education (CE) credit for wastewater operators must be approved.</p>

Program and Website: North Carolina Department of Environmental Quality - <https://deq.nc.gov/about/divisions/water-resources/operator-certification>

Reciprocity (Water and Wastewater): Allows reciprocity on a case-by-case basis.

Wastewater – North Carolina			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know(Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> – Assigned the same as treatment system or based on pop. served:</p> <ul style="list-style-type: none"> • Grade I - 1,500 or less; • Grade II - 1,501 to 15,000; • Grade III - 15,001 to 50,000; • Grade IV - 50,001 or more. <p><u>Treatment -- Biological</u> Grade I - (1) septic tank/sand filter systems; (2) biological lagoon systems; and (3) constructed wetlands and associated appurtenances. Grade II - activated sludge or fixed growth process with flow less than or equal to 0.5 mgd. Grade III - activated sludge or fixed growth process; flows greater than 0.5 through 2.5 mgd. Grade IV - activated sludge or fixed growth process; flow more than 2.5 mgd.</p> <p><u>Treatment -- Physical/Chemical</u> Grade I - primarily physical process Grade II - primarily chemical process including treatment processes augmented by physical processes. Includes reverse osmosis, electro dialysis, and ultrafiltration system.</p>	<p><u>General</u> Must have a HSD or equivalent (GED); must be at least 18 years of age; pass the exam for the specific grade desired (70%) and meet all training and education requirements:</p> <p><u>Collection Systems</u> Grade I - complete Grade I training. Grade II – hold a Grade I, complete Grade II training, and have 6 months of experience Grade III - hold a Grade II, complete Grade III training, and either 2 years’ experience or grad of 2 or 4-yr college with 6 related courses and 1 year. Grade IV – hold a Grade III, complete Grade IV training, and either 3 years of experience or grad of 2 or 4-yr college with 6 related courses and 2 years of experience.</p> <p><u>Wastewater Treatment</u> Grade I - complete Grade I training. Grade II - hold Grade I, complete Grade II training, and have 6 months at Grade II or higher Grade III - hold Grade II, complete Grade III training, either have 2 years at Grade II or be a grad of 2 or 4-yr college with 6 related courses and 18 months experience at Grade II or higher Grade IV – hold Grade III, completed Grade IV training, either 3 years at Grade III OR grad of 2 or 4-yr college with 6 related courses and 2 years at Grade III or higher</p>	<p>In order to maintain a valid certificate, the certificate must be renewed annually.</p> <p>Each operator must provide documentation of a minimum of 6 contact hours of Commission approved training during each year following the year of initial certification.</p>	<p>Exams are conducted by the state; no link to standardized national exams. Specific NTKC are not identified, but training/classes for Continuing Education (CE) credit for wastewater operators must be approved.</p> <p><u>Unique Feature</u> – Regulations call for general skill/abilities to: (A) read and understand the statutes; (B) perform mathematical calculations (C) complete and maintain logs and regulatory reporting forms; (D) safely and effectively operate the equipment (E) describe the general maintenance requirements for such equipment.</p>

Program and Website: North Carolina Department of Environmental Quality - <https://deq.nc.gov/about/divisions/water-resources/operator-certification>

Water – North Dakota			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> - (Based on pop. served):</p> <ul style="list-style-type: none"> • Class IA - less than 500 • Class I - 500 to 1,500 • Class II - 1,500 to 15,000 • Class III - 15,000 to 50,000 • Class IV - 50,000 or more <p><u>Water Treatment</u></p> <p>1. Simple chemical addition, such as, disinfection, fluoridation, corrosion control, or sequestering: Class IA - serving less than 500 Class I - 500 to 5,000 Class II - 5,000 to 15,000 Class III - 15,000 or more</p> <p>2. Chemical softening processes and filtration or membrane technology: Class II - serving less than 1,000 Class III - 1,000 to 5,000 Class IV - 5,000 or more</p> <p>3. Systems using coagulation, flocculation, sedimentation, and filtration for clarification: Class II - serving less than 1,500 Class III - 1,500 to 10,000 Class IV - 10,000 or more</p> <p>4. Systems using chemical oxidation of iron or manganese and filtration: Class II - serving less than 2,000 Class III - 2,000 to 15,000 Class IV - 15,000 or more</p>	<p>Must have at least an HSD or GED and must pass the examination with a score of 70% or higher.</p> <p>Must meet education and experience requirements</p> <p>Class 1A – 0.5 year experience Class I – 1 year Class II – 3 years Class III – 4 years Class IV – 5 years</p> <p>Education may be substituted for Class II-Class IV experience. One year for 2 years post-high school, 2 years for a 4 year degree.</p>	<p>Certificates must be renewed annually and expire on the first day of July of the year after which it was issued.</p> <p>Operators are required to earn 12 Continuing Education Credits every 3 years.</p>	<p>State holds both training and certification exams. Not linked to standardized national test.</p> <p>No specific NTKC are identified, but operators are recommended to take classes and review the following topics in Water Treatment and Distribution:</p> <p>SDWA Update, Operator Certification, Overview of Water Treatment Rules, BacT Update, Stage I & II Disinfectants/Disinfection By-products Rules, Filtration, Chlorine Meters and Measurements, Disinfection of Pipes and Reservoirs, Fire Hydrants, Groundwater Rule, Lead and Copper Rule, Math, Cross Connections, Pumps, System Security, Fluoridation, Well Head/Source Water Protection.</p>

Program and Website: North Dakota Department of Health; information found at: www.health.state.nd.us/MF/dw.html

Reciprocity – YES -- Candidates must be certified in another state by exam, fulfill education and experience requirements and pay the reciprocity fee.

Wastewater – North Dakota			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Based on population served: Class IA -- less than 500 people Class I - 500 to 1,500 Class II - 1,500 to 15,000 Class III - 15,000 to 50,000 Class IV - 50,000 or more people</p> <p><u>Wastewater Treatment</u> 1. Serving less than 10,000 persons Class IA -- Stabilization ponds serving 500 or less Class I -- Stabilization ponds serving 500 to 9,999 Class II -- a) All mechanical facilities b) Mechanically aerated ponds c) Oxidation ditches Class III -- a) Activated sludge; b) Trickling filter; c) Rotating biological contactors; d) Sludge stabilization facilities 2. Serving 10,000 or more persons Class II -- Stabilization ponds Class III -- a) All mechanical facilities b) Mechanically aerated ponds c) Oxidation ditches Class IV -- a) Activated sludge; b) Trickling filter; c) Rotating biological contactors; d) Sludge stabilization facilities</p>	<p>Must have at least an HSD or GED and must pass the examination with a score of 70% or higher.</p> <p>Must meet education and experience requirements</p> <p>Class 1A – 0.5 year experience Class I – 1 year Class II – 3 years Class III – 4 years Class IV – 5 years</p> <p>Education may be substituted for Class II-Class IV experience. One year for 2 years post-high school, 2 years for a 4-year degree.</p>	<p>Certificates must be renewed annually.</p> <p>CECs may be earned by attending training programs, seminars, workshops, and schools established or officially recognized by the Department of Health. Each operator must earn 12 CECs every three years.</p>	<p>State holds both training and certification exams.</p> <p>Not linked to standardized national test.</p> <p>No specific NTKC are identified, but operators are recommended to take classes and review the following topics in Wastewater Treatment and Collection:</p> <p>Wastewater Basics, History of Wastewater Treatment, Troubleshooting, Physical Aspects of Lagoons, Wetland Systems, Microbiological Life in Ponds, Collection Systems, Operator Certification, Math, Discharge Permits, Lift Station Rehabilitation, Stormwater Update, Pond Construction. .</p>

Program and Website: North Dakota Department of Health; information found at: www.health.state.nd.us/MF/dw.html

Water – Ohio			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classified I or II based on population.</p> <p>Class I - serves less than 25,000 Class II – not a Class I and serves more than 25,000</p> <p><u>Water Treatment</u> Classified A and I-IV based on source of supply, quality of source, complexity of treatment, design capacity and the system’s potential for health hazards.</p> <p>The five classifications of facilities correspond with a similar classification for operators:</p> <ul style="list-style-type: none"> • Class A • Class I • Class II • Class III • Class IV 	<p>Operators of any water system classification level must pass a written exam; have an HSD (or equivalent) or appropriate vocational training; and meet the following minimum operating experience requirements:</p> <p>Class A: 1,040 hours</p> <p>Class I: 12 months</p> <p>Class II: 36 months</p> <p>Class III: 60 months, including 12 months as a Class II operator.</p> <p>Class IV: 36 months as a Class III operator, with 24 months management experience at a Class III or IV facility.</p> <p>Individuals applying for Class A, I, or II level certification without sufficient experience may take the exam. With a passing score, they become an OIT and have 48 months to fulfill the appropriate experience requirement. OIT is not available for Class III or IV certification.</p>	<p>Operators must renew their certifications every 2 years. Certificates expire on December 31 of the second year.</p> <p>A minimum number of contact hours are required for renewal of certifications and based on the level of certification:</p> <p>Class A: 8 hours Class I: 12 hours Class II, III, IV: 24 hours</p>	<p>The State of Ohio has approved the Association of Boards of Certification (ABC) as an approved examination provider to provide the Class A through Class III exams. Operators may now choose to take an ABC examination and then seek State of Ohio certification for all levels of certification except Class IV.</p> <p>The following documents provide NTKC that test-takers will be expected to know for each type of certified operator exam.</p> <ul style="list-style-type: none"> ▪ Water ▪ Wastewater ▪ Wastewater Collection

Program and Website for Water/Wastewater: Ohio Environmental Protection Agency; <http://www.epa.state.oh.us/ddagw/opcert.aspx>

Reciprocity: May be approved on a case by case basis.

Wastewater – Ohio			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Class I – tributary to Class I treatment works Class II – tributary to Class II, III, or IV treatment works</p> <p><u>Wastewater Treatment</u> Based on design flow of the treatment works and the final effluent limits for the treatment works' NPDES permit.</p> <p>All treatment lagoon systems with a design flow greater than 0.025 million gallons per day (MGD) shall be classified as class I systems.</p> <p>Following are the five classifications of facilities, which correspond with a similar classification for operators:</p> <ul style="list-style-type: none"> • Class A • Class I • Class II • Class III • Class IV 	<p>Must apply for and pass the state operator certification exam and document the appropriate level of hands on work experience</p> <p>Must have a high school diploma or the equivalent, and the amount of operating experience identified below:</p> <p>Class A - 1040 hours Class I - 12 months Class II - 36 months Class III - 60 months, including 12 months as a Class II operator Class IV - 36 months as a Class III, 24 months' management experience at a Class III or IV facility</p> <p>Operator in Training (OIT) when the exam is passed but there is not enough operating experience. OIT status is not available for Class III or IV certification</p>	<p>Operators must renew their certifications every 2 years. Certificates expire on December 31 of the second year.</p> <p>A minimum number of contact hours are required for renewal of certifications and based on the level of certification:</p> <p>Class A: 8 hours Class I: 12 hours Class II, III, IV: 24 hours</p>	<p>The State of Ohio has approved the Association of Boards of Certification (ABC) as an approved examination provider. Operators may now choose to take an ABC examination and then seek State of Ohio certification for all levels of certification except Class IV.</p> <p>The following documents provide NTKC that test-takers will be expected to know for each type of certified operator exam.</p> <ul style="list-style-type: none"> • Water • Wastewater • Wastewater Collection

Program and Website for Water/Wastewater: Ohio Environmental Protection Agency; <http://www.epa.state.oh.us/ddagw/opcert.aspx>

Water – Oklahoma			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems and Water Treatment</u></p> <p>Class A - (1) Water treatment plants, distribution systems, or chlorinated groundwater systems serving populations greater than 50,000; or (2) All water treatment plants classified as an “A” facility</p> <p>Class B - (1) Water treatment plants, distribution systems or chlorinated groundwater systems serving populations greater than 15,000 and up to and including 50,000; or (2) All water treatment plants classified as a “B” facility by complexity</p> <p>Class C – (1) Water treatment plants, distribution systems, and chlorinated or non-chlorinated groundwater systems serving populations greater than 1,500 and up to and including 15,000; (2) Surface water treatment plants serving a population of 15,000 or less; (3) Groundwater systems utilizing any form of chemical treatment other than chlorination for disinfection only; or (4) Water treatment plants classified as a “C” facility by complexity</p> <p>Class D - Required for distribution systems or chlorinated groundwater systems serving populations of 1,500 or less.</p>	<p>Operators must have an HSD, GED or appropriate experience or training to substitute for the educational requirement, or both; pass a written exam and comply with the documentation requirements for citizenship or immigration status of the state’s immigration law. There are additional experience and training requirements for each class:</p> <p>Class A: 5 years of experience (≤ 2 years as operator), and 200 hours of training (≤ 40 hours of DEQ-approved courses)</p> <p>Class B: 3 years of experience (≤ 1 year as operator) and 100 hours of training</p> <p>Class C: 1 year of experience and 36 hours of training</p> <p>Class D: 16 hours of training</p> <p>Equivalencies for experience and training are listed at OS 252:710-3-36.</p> <p>Temporary certification for Class D operators: Must be under supervision of an appropriately certified operator and valid for one year from date of employment.</p>	<ul style="list-style-type: none"> • Certification must be renewed every year. • A minimum of 4 hours of approved training per year is required for renewal and experience may not be substituted for this required training. 	<p>State conducts its own exams.</p> <p>Not linked to standardized national exam like ABC.</p> <p>No specific NTKC provided, but state provides following study guides:</p> <ul style="list-style-type: none"> • Water System Operations State of Oklahoma Certification Study Guide  • C Level Water Laboratory Manual  • Distribution/Collection Manual 

Program and Website: Oklahoma Department of Environmental Quality - www.deq.state.ok.us/wqdnew/opcert/index.html

Reciprocity: YES, candidates must be certified in another state by exam and pay the Oklahoma reciprocity fee. Oklahoma will only grant reciprocity for another State’s license if that State grants reciprocity to Oklahoma licensees. (Okla SS 59-1105, A, 2)

Wastewater – Oklahoma			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems and Wastewater Treatment</u></p> <p>Wastewater A - (1) Wastewater works and/or collection systems serving populations greater than 50,000; or (2) All wastewater works classified as an “A” facility by complexity</p> <p>Wastewater B - (1) Wastewater works and/or collection systems serving populations greater than 15,000 and up to and including 50,000; or (2) All wastewater works classified as a “B” facility by complexity</p> <p>Wastewater C - (1) Wastewater works and/or collection system facilities serving populations greater than 1,500 and up to and including 15,000; (2) Discharging wastewater facilities serving 15,000 or less; or (3) Wastewater works classified as a “C” facility by complexity.</p> <p>Wastewater D - Required for total retention lagoons and/or collection systems serving populations of 1,500 or less.</p>	<p>Must have a HSD or a GED. Experience and/or training may be substituted.</p> <p>Hours of approved training; yrs. experience</p> <p>Wastewater Treatment</p> <ul style="list-style-type: none"> • D - 16 hours, no experience • C - 36 hours, 1 year • B - 100 hours, 3 years • A - 200 hours, 5 years <p>Collection System</p> <ul style="list-style-type: none"> • C OPERATOR - 36 hours, 1 year • TEC TECHNICIAN - 8 hours, no experience <p>An Associate’s Degree or greater in chemistry, biology, engineering, physical science, hydrology, geology, math, env. science, microbiology, toxicology, or civil, chemical, sanitary or env. engineering may be substituted for the 32 hours of DEQ approved C level training.</p>	<ul style="list-style-type: none"> • Certification must be renewed every year. • A minimum of 4 hours of approved training per year is required for renewal and experience may not be substituted for this required training. 	<p>State conducts its own exams.</p> <p>Not linked to standardized national exam like ABC.</p> <p>No specific NTKC provided, but state provides following study guides:</p> <ul style="list-style-type: none"> • C Level Wastewater Laboratory Manual  • Wastewater System Operations State of Oklahoma Certification Study Guide  • Distribution/Collection Manual 

Program and Website: Department of Environmental Quality; found at: <http://www.deq.state.ok.us/WQDnew/opcert/>

Water – Oregon			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems (WD)</u> Based on population served: WD Level 1: < 1,500 and not S WD Level 2: 1,501 - 15,000 WD Level 3: 15,001 - 50,000 WD Level 4: > 50,000</p> <p><u>Water Treatment (WT)</u> Based on a point system Points are assigned based on system size, water source, treatment type, residuals disposal and facility characteristics instrumentation. Water Treatment 1 -- 1 to 30 points Water Treatment 2 -- 31 to 55 Water Treatment 3 -- 56 to 75 Water Treatment 4 -- 76 or more</p> <p>Small Water Systems (S) are ground water systems that serve fewer than 150 connections or purchase water without adding any additional treatment.</p>	<p>Must pass the ABC exam for appropriate level. Must have at least a HSD or GED or a 2 yr., AA degree, 4 yr. degree or masters and the following:</p> <p>Level 1: 1 yr of experience or an Associate’s degree in water technology, which may substitute for 6 mo. exper.</p> <p>Level 2: 3 yr of exper. or 1 yr of relevant post-high school education and 2 ys of experience.</p> <p>Level 3: 1-3 yr of relevant post-high school education combined with 3-5 yr of exper., with 1.5-2.5 yr of operational decision making (ODM).</p> <p>Level 4: 2-4 yr of relevant post-high school education, and 4-6 yr of exper. with 2-3 yr of ODM.</p> <p>Filtration endorsements (FE) for treatment systems only: Must be Level 2 certified water treatment operator or higher with 1 year of experience at a Level 2 (or higher) plant with conventional filtration.</p> <p>Small Water System Operation (SWSO): Complete required training course every 3 yr. Anyone with a WD or WT certification, may operate an “S” system.</p>	<p>Level 1-4 operators must renew certification and accumulate 20 hours of approved credits (or 2 CEUs every 2 years).</p> <p>Small ground water system operators must renew their certification every 3 years and produce evidence of completing 6 hours of Department-approved free small water system training course during the 3-year period.</p>	<p>Provides a link to the Association of Boards of Certification (ABC) NTKC:</p> <ul style="list-style-type: none"> •  ABC Need-to-Know - Distribution •  ABC Need-to-Know - Treatment

Program and Website: The Oregon Health Authority,

<http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/OperatorCertification/Pages/index.aspx>

Reciprocity: Applicant must possess current, valid certification in another state or province that has a recognized certification program substantially equivalent.

Wastewater – Oregon			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know (NTK) Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Class I - 1,500 or less design pop.; Class II - 1,501 to 15,000 design pop; Class III - 15,001 to 50,000 design pop; Class IV — 50,001 or more design pop.</p> <p><u>Wastewater Treatment</u> All classifications based on point system. Class I — 30 total points or less; Class II — 31-55 total points; Class III — 56-75 total points; Class IV — 76 or more points.</p> <p>Small Wastewater Systems — 30 total points or less; less than 500 design population or less than 150 connections</p>	<p>Must pass the ABC national standardized exam with a score of 70% or higher. Meet the education and experience requirements for level of certification:</p> <ul style="list-style-type: none"> • HSD or equivalent, or GED certificate, for all grades except Treatment Grade IV. • For Grade IV wastewater treatment, 1-year post-high school education or training. • For Provisional Grade I, enrollment in, or completion of, a DEQ approved training program. Post-high school education may reduce experience needed for certification. • DEQ will give six months' experience credit to qualify for a Grade I certificate for an AAS degree or equivalent in water or wastewater technology. • One year of education may reduce experience by 12 months for Grade II and by 36 months for Grade III. 	<p>Completion of at least 2.0 CEUs (20 hours) or equivalent academic credit, during each two-year renewal cycle. Education or training must have direct application to the job tasks and required knowledge of a wastewater system operator.</p> <p>If you have a Collection and a Treatment certificate, (any grade) you only need meet continuing education for one; accruing at least 2.0 CEUs total within the last two years.</p>	<p>Use ABC NTKC and standardized testing process</p> <ul style="list-style-type: none"> • Need-to-Know for Treatment Operators • Need-to-Know for Collection Operators

Program and Website: The Oregon Department of Environmental Quality - <https://www.oregon.gov/deq/wq/wqpermits/Pages/Wastewater-Operator-Certification.aspx>

Reciprocity: Oregon does not have direct exchange type of reciprocity agreement with any other state or province. However, DEQ can review reciprocity applications from individual persons who hold active wastewater operator certificates in other states or provinces. Applicants from non-ABC states may prevent an applicant for applying for certification through reciprocity at the same grade as their current, non-Oregon certificate.

Water – Pennsylvania			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classification E—Distribution and consecutive water systems, without treatment.</p> <p><u>Water Treatment</u> Classification A—more than 5 million gallons per day (MDG). Classification B—greater than 1 MGD but less than or equal to 5 MGD. Classification C—greater than 100,000 gallons per day but less than or equal to 1 MGD. Classification D—less than or equal to 100,000 gallons per day. WDc—less than 500 individuals and having no more than 150 connections; the source of water for the system is exclusively groundwater; and the system requires only disinfection. Systems that meet similar criteria but have no treatment are classified as WDn. The system owner first must request, in writing, that their water system be reclassified as a Dc or Dn.</p>	<p>Each applicant must have a HSD or GED. Operators of any class level must pass both a General exam and system-specific exam and have the following minimum operating experience: Class A: 4 years Class B: 3 years Class C: 2 years Class D: 1 year Class E: 1 year Class Dc: 6 months</p> <p>Experience requirements are reduced if an applicant has completed a DEP approved certificate program, has an Associate’s degree with a focus in water or wastewater or an Associate’s or Bachelor’s degree in an associated field of science or engineering.</p>	<p>Certification must be renewed every 3 years.</p> <p>Operators must complete a specific number of continuing education hours during each 3-year period, depending on the type of system. The values below represent the number of training hours required for an operator’s first 3-year cycle and subsequent 3-year cycles, respectively:</p> <p>Class A: 15, 30 Class B: 15, 30 Class C: 15, 30 Class D: 8, 15 Dc: 4, 9 Dn: 3, 6</p>	<p>State does its own exams and are not linked to standardized national exam.</p> <p>NTKC is documented in The Operator Certification Program Handbook.</p>

Program and Website: Department of Environmental Protection -

<http://www.dep.pa.gov/Business/Water/BureauSafeDrinkingWater/OperatorCertification>

Reciprocity: May be granted to an applicant holding a **valid** water and/or wastewater operator certification from another state, territory, the District of Columbia, or Board-approved registry, An applicant for reciprocity shall be granted a certificate based on meeting the experience requirement working at the highest comparable Pennsylvania class system.

Wastewater – Pennsylvania			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Wastewater Treatment</u></p> <p>Wastewater systems are classified into one of five classifications being designated as Classification A, B, C, D or E as follows:</p> <p>Classification A—Wastewater systems with a permitted average daily discharge flow greater than 5 million gallons per day (MDG) or unlimited permitted discharge flows.</p> <p>Classification B—Wastewater systems with a permitted average daily discharge flow greater than 1 MDG but less than or equal to 5 MDG.</p> <p>Classification C—Wastewater systems with a permitted average daily discharge flow greater than 100,000 gallons per day but less than or equal to 1 MDG. Classification D—Wastewater systems with a permitted average daily discharge flow equal to or less than 100,000 gallons.</p> <p>Classification E—A satellite Collection System.</p>	<p>Each applicant must have a HSD or GED.</p> <p>Operators of any class level must pass both a General exam and system-specific exam and have the following minimum operating experience:</p> <p>Class A: 4 years Class B: 3 years Class C: 2 years Class D: 1 year Class E: 1 year Class Dc: 6 months</p> <p>Experience requirements are reduced significantly if an applicant has completed a DEP approved certificate program, has an Associate’s degree with a focus in water or wastewater or an Associate’s or Bachelor’s degree in an associated field of science or engineering.</p> <p>Successful completion of 10 hours of DEP-approved water or wastewater training is considered equal to 1 month of operating experience.</p>	<p>Certification must be renewed every 3 years.</p> <p>Operators must complete a specific number of continuing education hours during each 3-year period, depending on the type of system.</p> <p>The values below represent the number of training hours required for an operator’s first 3-year cycle and subsequent 3-year cycles, respectively:</p> <p>Class A: 15, 30 Class B: 15, 30 Class C: 15, 30 Class D: 8, 15 Dn: 3, 6</p>	<p>State does own exams and not linked to standardized national exam.</p> <p>NTKC is documented in The Operator Certification Program Handbook.</p>

Program and Website: Department of Environmental Protection - <http://www.dep.pa.gov/Business/Water/BureauSafeDrinkingWater/OperatorCertification>

Water – Rhode Island			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems (D)</u> Classified by population served: VSSD: < 500 Class 1D: 501 - 1,500 Class 2D: 1,501 - 15,000 Class 3D: 15,001 - 40,000 Class 4D: > 40,000</p> <p><u>Water Treatment (T)</u> Classified according to a point system, which takes into account population served, source water, design flow, average raw water quality, complexity of treatment, sludge/backwash water disposal, and laboratory control:</p> <p>VSSD: < 10 points Class 1T: 10 - 30 points Class 2T: 31 - 55 points Class 3T: 56 - 75 points Class 4T: > 75 points</p>	<p>Have an HSD or GED, pass an exam prepared by the Association of Boards of Certification (ABC), and meet experience requirements specific to each class: VSSD: 3 months operating class VSST/D or higher; experience or training can satisfy the educational requirement. Class 1T/D: 6 months full-time at Class 1 T/D facility or higher. Class 2T/D: Full Class 1T/D cert; 1 yr full-time at Class 1 T/D after certification or 2 yr full-time at Class 1T/D or higher. Class 3T/D: Full Class 2T/D certification and 2 yr full-time after certification, or 4 yr full-time at Class 2T/D or higher, or Associate’s degree in physical or biological science and 2 yr full-time at Class 2T/D or higher, or Bachelor’s degree in physical or biological science and 1 yr full-time at Class 2T/D or higher. Class 4T/D: Associate’s degree (see above) and 4 yr full-time at Class 3T/D or higher, or Bachelor’s degree (see above) and 2 yr full-time at Class 3T/D or higher, or employed by a RI PWS Class 3T/D or higher and 5 yr continuous full-time at Class 3T/D or higher (For Class 4T only: 14 semester credits of post-high school education in physical, and biological science, or both).</p>	<p>Certificates must be renewed every 3 years. To renew, operators must have actively worked in their area of certification at least 20% of the time.</p> <p>Operators must also complete the following number of contact hours: VSS: 3 hours Class I: 15 hours Class II: 15 hours Class III: 30 hours Class IV: 30 hours</p> <p>Applicants must complete 50% or more of their required training contact hours in technical areas directly related to the operations of the water system and may complete no more than 25% of their training in the areas of health/safety or supervisory skills.</p>	<p>The Board continues to maintain membership in the Association of Boards of Certification (ABC). The state uses the standardized exam format.</p> <p>Uses ABC’s Need-to-Know Criteria.</p>

Program and Website: Rhode Island Department of Health - <http://health.ri.gov/licenses/detail.php?id=273> and <http://health.ri.gov/publications/annualreports/2011DrinkingWaterOperatorCertificationProgram.pdf>

Reciprocity: Full certificates may be issued, (upon application) without examination, in a comparable classification to any individual who holds a certificate issued by any state, territory or possession of the United States, any country based on the judgment of the Board.

Wastewater – Rhode Island			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No collection system requirements were identified.</p> <p><u>Wastewater Treatment</u> Classified by the Board as Grade 1, 2, 3, or 4 based on the complexity of the wastewater treatment facility, and the equivalent population served. Criteria for classification include size, effluent discharge, preliminary treatment, primary treatment, secondary treatment, advanced waste treatment, solids handling, disinfection, and laboratory control by plant personnel. Based on points, the classifications are:</p> <p>Grade 1 – 30 points and less. Grade 2 - 31 to 55 points Grade 3 – 56 to 75 points Grade 4 – 76 points and more</p>	<p>Applicants must hold a HSD or GED, must pass the required written examination, and meet the following requirements:</p> <p>GRADE 1 – 1 year of employment and pass Grade 1 exam, OR completion of a Board-approved training course within 2 years prior to application.</p> <p>GRADE 2 – 1 year of experience and pass the Grade 2 exam.</p> <p>GRADE 3 - must pass a Grade 3 exam and must have a full Grade 2 License and either a Bachelor's or Master's in science, engineering, or related fields and 2 years at a Grade 2 or higher; OR 2 years of college with 1 year of courses with a passing grade in science, engineering, or related fields; and 4 years of employment as an Operator In Good Standing, 2 of which are to be in DRC at a Wastewater Treatment Facility of Grade 2 or higher; OR have 5 years as an Operator In Good Standing, of which 3 are at Grade 2 or higher.</p> <p>GRADE 4 -- must pass a Grade 4 exam and must have a full Grade 3 License and either a Bachelor's or Master's in science, engineering, or related fields and 3 years at a Wastewater Treatment Facility of Grade 3; OR at least 2 years of college, the equivalent of 1 full year of courses with a passing grade in science, engineering, or related fields; and 5 years as an Operator In Good Standing, 3 of which are Direct Responsible Charge at a Grade 3; OR 6 years in Good Standing, of which 3 are at a Grade 3 or higher.</p>	<p>Must be renewed every two years.</p> <p>Should the Board determine that a substantial number of acceptable training courses are available to all grades of Rhode Island Licensees, then the Board may institute a Mandatory Retraining for Renewal (MRR) requirement.</p>	<p>Not directly linked to ABC for exams, but study materials and guidance based on the ABC exams are provided for all four grades of operators to prepare for exams.</p> <p>Grade 1 Grade 2 Grade 3 Grade 4 Formulas Sample Math Problems</p> <p>These also make reference to other sources of information and guidance, including the Sacramento program.</p>

Program and website: Department of Environmental Management - <http://www.dem.ri.gov/programs/water/wwtf/certification/>

Water – South Carolina			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Distribution systems (DS) of Group II-V must have a certified operator of Class D - A (with A being the highest). Group I: TNCWSs (no certified operator required) Group II: < 600,000 GPD and no fire protection Group III: 600,000 -6,000,000 GPD, or Group II with fire protection Group IV: 6 - 20 MGD Group V: > 20 MGD</p> <p><u>Treatment systems</u> Treatment plants (TP) of Group I-VI must have a certified operator of class E - A (with A being the highest). Groundwater systems Group I - disinfection treatment with sodium hypochlorite or calcium hypochlorite. Group II - gaseous chlorine or chloramine disinfection or includes sequestering, fluoridation, or corrosion control treatment. Group III - With advanced treatment Surface water or groundwater under the direct influence of surface water Groups IV – Conventional treatment. Also includes surface water without filtration. Group V – High rate gravity filtration clarification, diatomaceous earth filtration, or ultraviolet light disinfection. Group VI - Direct filtration, membrane technology, or ozone.</p>	<p>Applicants must meet the following requirements for each system class:</p> <p>Trainee: Valid trainee permit and fee Level E (TP only): Valid trainee permit, pass exam, 6 months experience Level D: Valid trainee permit (DS), valid E permit (TP), pass exam, and 1-year experience Level C: Valid D permit, pass exam, and at least 2 years of experience Level B: Valid C permit, pass exam, and 3 years of experience Level A: Valid B permit, pass exam, and 4 years of experience</p> <p>OIT (trainee): May apply for a 2-year OIT license and shall always be under the direct supervision of a legally licensed operator of the proper grade.</p>	<p>Certificates must be renewed annually and operators must complete 12 CEUs every 2 years.</p> <p>Annually every operator must obtain a total of 12 hours (clock hours) of continuing education or pass an exam of the next highest level.</p> <p>Continuing education must be information that is relevant to water and/or wastewater treatment facilities. Continuing education can be obtained from schools, workshops, seminars, conferences, online training, and/or in-house training sessions.</p>	<p>References ABC in regard to training but does not provide any links to NTKC.</p>

Program and Website: Department of Labor, Licensing, and Regulation;

http://www.llr.state.sc.us/pol/environmental/index.asp?file=PDF_Files/qualifications.htm

Reciprocity: The Committee may issue certificates for equivalent classifications with certification programs approved by the Committee.

Wastewater – South Carolina			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection System</u> Voluntary Certification through the Water Environment Association of South Carolina (WEASC).</p> <p><u>Treatment -- Biological</u> Group IB plants require operators-in-charge with at least a "D" certification. Group IIB plants require at least a "C" certification. Group IIIB plants require at least a "B" certification. Group IVB plants require operators-in-charge with at least an "A" certification.</p> <p><u>Treatment -- Physical Chemical</u> Group I-P/C plants require at least a "D" Physical/Chemical certification. Group II-P/C plants require at least a "C" Physical/Chemical certification. Group III-P/C plants require at least a "B" Physical/Chemical certification. Group IV-P/C plants require at least an "A" Physical/Chemical certification.</p> <p>Operator-in-Training (OIT) Licenses "Trainee" licenses can be given that are valid for two (2) years for new personnel with proper qualifications.</p>	<p><u>Biological Wastewater Treatment</u> Trainee - Submit an application; Pay fees Class 'D' - Hold a valid Trainee operator certification; pass exam; have 1 year of actual operating experience Class 'C' - Hold a valid Class 'D' operator certification; pass exam; have 2 years of actual operating experience Class 'B' Hold a valid Class 'C' operator certification; pass exam; have 3 years of actual operating experience Class 'A' - Hold a valid Class 'B' operator certification; Pass exam; have 4 years of actual operating experience</p> <p><u>Physical Chemical Wastewater</u> Trainee - Submit an application; Pay fees Class 'D' - Hold a valid Trainee operator certification; pass exam; have 1 year of actual operating experience Class 'C' - Hold a valid Class 'D' operator certification; Pass exam; have 2 years of actual operating experience Class 'B'- Hold a valid Class 'C' operator certification; Pass exam; have 3 years of actual operating experience Class 'A' - Hold a valid Class 'B' operator certification; Pass an exam; have 4 years of actual operating experience.</p>	<p>For renewal of certificates, applicants must have completed at least 6 hours per year of appropriate continuing training and education.</p> <p>Continuing education must be information that is relevant to water and/or wastewater treatment facilities. Continuing education can be obtained from schools, workshops, seminars, conferences, online training, and/or in-house training sessions.</p>	<p>References ABC in regard to training but does not provide any links to NTKC.</p>

Program and Website: Department of Labor, Licensing, and Regulation;
http://www.llr.state.sc.us/pol/environmental/index.asp?file=PDF_Files/qualifications.htm

Water – South Dakota			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems(DS)</u> Based on population served.</p> <p>Class I: ≤ 1,500 people Class II: 1,501-15,000 people Class III: 15,001-50,000 people Class IV: > 50,000 people</p> <p><u>Water Treatment</u> Based on a point system that takes into account population served, plant flow, water source, water quality, complexity of treatment.</p> <p>Class I: ≤ 30 points Class II: 31-55 points Class III: 56-75 points Class IV: > 75 points</p>	<p>Have at least a HSD or GED, pass an ABC exam of the associated class level with a minimum grade of 70%, and meet the following requirements:</p> <p>Class I: One year at a Class I facility or higher Class II: 3 years at a Class I facility or 2 years at a Class II facility or higher Class III: 2 years of college or vocational school in engineering, environmental science, or a related field, and 4 years of experience, (including at least 2 years in DRC at Class II facility or higher); or 6 years of experience, (including at least 3 years at a Class II facility or higher) Class IV: Completion of a 4-year college or vocational school degree in engineering, environmental science, or related field, and 4 years of experience (including at least 2 years in DRC at Class III facility or higher); or 8 years of experience (including at least 4 years of experience at a Class III facility or higher).</p> <p>Experience may be substituted for education.</p>	<p>All certificates must be renewed annually. Must obtain ten to thirty contact hours every 3 years.</p> <p>The contact hour requirements are as follows:</p> <ul style="list-style-type: none"> • Operator has one certificate (Class I or II) -- 10 contact hours every three years • Operator has one certificate (Class III or IV) - 20 contact hours every 3 years • Operator has more than one certificate and all are Class I and II - 15 contact hours every 3 years • Operator has more than one certificate and at least one certificate is a Class III or IV – 30 contact hours every 3 years 	<p>The Operator Certification Program uses exams supplied by the Association of Boards of Certification (ABC).</p> <p>References ABC NTKC.</p> <p>Primary reference materials are the California State University-Sacramento Water and Wastewater Training Manuals as well as AWWA/WEF manuals.</p>

Program and Website: Department of Environment & Natural Resources - <https://denr.sd.gov/des/dw/opcertqa.aspx>

Reciprocity: Certificates of an equivalent grade may be issued, without examination, to any person who holds a certificate in any state, territory, possession of the United States, or any foreign country, or from the Association of Boards of Certification provided that the education and experience requirements.

Wastewater – South Dakota			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Classified based on population served: Class I – not over 1500 persons Class II –1501 to 15,000 persons Class III – 15,001 to 50,000 persons Class IV – 50,000 or more persons</p> <p><u>Wastewater Treatment</u> Classified on a point system based on the complexity of the system. Class I – 30 points or less. Class II –31 to 55 points. Class III – 56 to 75 points. Class IV – over 75 points</p>	<p>At least a HSD or GED, pass an ABC exam of the associated class level with a minimum grade of 70%, and meet the following requirements: Class I: One year at a Class I facility or higher Class II: 3 years at a Class I facility or 2 years at a Class II facility or higher Class III: 2 years of college or vocational school in engineering, environmental science, or a related field, and 4 years of experience, (including at least 2 years in DRC at Class II facility or higher); or 6 years of experience, (including at least 3 years at a Class II facility or higher) Class IV: Completion of a 4-year college or vocational school degree in engineering, environmental science, or related field, and 4 years of experience (including at least 2 years in DRC at Class III facility or higher); or 8 years of experience (including at least 4 years of experience at a Class III facility or higher). Experience may be substituted for education.</p>	<p>All certificates must be renewed annually. Must obtain ten to thirty contact hours every three years.</p> <p>The contact hour requirements are as follows:</p> <ul style="list-style-type: none"> Operator has one certificate (Class I or II) -- 10 contact hours every three years Operator has one certificate (Class III or IV) - 20 contact hours every three years Operator has more than one certificate and all are Class I and II - 15 contact hours every three years Operator has more than one certificate and at least one certificate is a Class III or IV – 30 contact hours every three years 	<p>The Operator Certification Program uses exams supplied by the Association of Boards of Certification (ABC).</p> <p>References ABC NTKC.</p> <p>Primary reference materials are the California State University-Sacramento Water and Wastewater Training Manuals as well as AWWA/WEF manuals.</p>

Program and Website: Department of Environment & Natural Resources - <https://denr.sd.gov/des/dw/opcertqa.aspx>

Water – Tennessee			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classification is based on the number of service connections:</p> <p>Grade I: 50-5,000 service connections Grade II: > 5,000 service connections</p> <p><u>Water Treatment</u> Classification is in four grades -- Grade I – IV – and is based on a point system that takes into account population served, type of treatment, source of supply, complexity of treatment, and laboratory control by plant personnel.</p> <p>Grade IV -- 61 or more points Grade III -- 35 to 60 points Grade II -- 16 to 34 points Grade I -- 15 or less points</p> <p>Small Water System (SWS): < 50 service connections, includes all water systems which have a ground water source not under the direct influence of surface water, provided the system does not use any treatment other than disinfection, and those systems which purchase water for resale and serve less than 50 service connections.</p>	<p>Applicants must have a HSD or GED and pass an exam of the associated class level with a minimum grade of 70%.</p> <p>For distribution certifications, applicants must also demonstrate: Grade I & II: At least 12 months operating experience at a water distribution system</p> <p>For treatment certifications, applicants must also demonstrate: Grade I: At least 12 months experience at a Grade I or SWS. Grade II: At least 12 months experience at a Grade I or II. Grade III: At least 12 months experience at a Grade III or 12 months at a Grade II and six months at Grade III. Grade IV: At least 60 months of experience at a Grade III or IV or Bachelor’s degree in chemistry or related science and 12 months experience at Grade III or IV.</p> <p>SWS: At least three months of experience at a SWS</p>	<p>Operators must renew certificates annually.</p> <p>Operators with Grade III and IV (treatment plant) certificates must complete 12 contact hours of training per 3-year continuing education period.</p> <p>Operators with Grades I and II (both treatment and distribution) certificates and SWS must complete 6 contact hours of training per 3-year continuing education period.</p>	<p>State has developed own NTKC.</p> <p>Need-to-Know documents were developed to provide those individuals with a listing of subject matter and understanding areas for each operator classification of water treatment, distribution systems, wastewater treatment and collection systems available in Tennessee.</p>

Program and Website: Department of Environment & Conservation - <https://www.tn.gov/environment/program-areas/wr-water-resources/fleming-training-center/operator-certification-and-renewal.html>

Reciprocity: Is allowed on a case-by-case basis.

Wastewater – Tennessee			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Grade I. Serves no more than five thousand (5,000) service connections. Grade II. Serves more than five thousand (5,000) service connections.</p> <p><u>Wastewater Treatment</u> Classifications made in accordance with the point total scheme which takes into account the design flow of the plant, type of unit processes, character, and the volume Grade IV -- 76 or more points Grade III -- 56 to 75 points Grade II -- 55 points or less</p> <p><u>Collection System/ Treatment Combo</u> Grade I - Treatment plant with a capacity of seventy-five thousand (75,000) gallons per day or less. A collection system with less than fifteen (15) service connections.</p> <p>Biological/Natural - System using natural biological treatment as the predominant means for treatment. Includes collection System combo.</p>	<p>Must have a HSD or GED, pass class level exam with grade of 70 percent, and meet education/experience requirements:</p> <p><u>Collection Systems</u> Grade I and II – 12months of operating experience.</p> <p><u>Treatment</u> Biological/Natural -- 12 months of operating experience. Grade I -- 12 months in a Grade I or 12 months at a biological/natural system and 6 months at a Grade I plant. Grade II -- must have 12 months at a Grade I or a Grade II wastewater treatment plant. Grade III – 12 months at a Grade II wastewater treatment plant or a Grade III wastewater treatment plant. Grade IV – 60 months of experience at a Grade III or a Grade IV Wastewater Treatment plant or bachelor degree in engineering, chemistry or a related science from an accredited college or university, and 12 months at a Grade III or a Grade IV Wastewater Treatment plant.</p> <p>Board sanctioned training may be credited toward 3 months of experience</p>	<p>Each certificate is renewed annually.</p> <p>Completion of the required number of continuing education hours every three years is required to maintain certification.</p> <p><u>Collection Systems</u> Grade I – 6 hours Grade II --6 hours</p> <p><u>Treatment</u> Grade I --6 hours Grade II -- 6 hours Grade III – 12 hours Grade IV – 12 hours Biological/Natural-6 hours</p>	<p>Linked directly with ABC.</p> <p>Need-to-Know documents were developed to provide those individuals with a listing of subject matter and understanding areas for each operator classification of water treatment, distribution systems, wastewater treatment and collection systems available in Tennessee.</p>

Program and Website: Department of Environment & Conservation - <https://www.tn.gov/environment/program-areas/wr-water-resources/fleming-training-center/operator-certification-and-renewal.html>

Water – Texas			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Water Distribution</u> There are two classes, B and C.</p> <p><u>Water Treatment</u> There are four classes of operator licenses, A-D, based on source, number of connections, and treatment applied. This information is used to determine the number, type, and level of operators needed at the systems. Class A is most advanced.</p>	<p>Applicants must have a at least a HSD or GED, pass an exam with a minimum grade of 70 percent, have:</p> <p>Class A: 164 hours training; and master's degree and 4 years' experience, bachelor's degree and 5 years' experience, or HSD and 8 years' experience</p> <p>Class B: 100 hours training (groundwater and distribution systems) or 124 hours (surface water); and a bachelor's degree and 2.5 years' experience or HSD and 5 years' experience</p> <p>Class C: 60 hours training and 2 years' experience</p> <p>Class D: 20 hours training</p> <p>Training courses and specific requirements for experience (for example, must be in a related field), and education (for example, required majors).</p>	<p>All licenses are valid for 3 years.</p> <p>Operators must complete 30 hours of continuing education (10 hours for each year the license is in effect), during the life of the license.</p> <p>1 credit hour = 1 hour of attendance in TCEQ approved training courses, correspondence courses, seminars, and association meetings.</p>	<p>State has its own NTKC and examination process.</p> <p>The following need-to-know guides available:</p> <ul style="list-style-type: none"> • Class D Water Operators • Class C Water Distribution Operators • Class C Groundwater Operators • Class C Surface Water Operators • Class B Water Distribution Operators • Class B Groundwater Operators • Class B Surface Water Operators • Class A Water Operators

Program and website: Commission on Environmental Quality - <https://www.tceq.texas.gov/licensing/licenses/waterlic>

Reciprocity: Allow waiving of qualifications, training, or an examination for individuals with a good compliance history who hold a current license from another state, territory, or country (licensing authority) if that licensing authority has requirements equivalent to those of the TCEQ. Each reciprocity request is reviewed on a case-by-case basis.

Wastewater – Texas			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Classifications based on daily average flow minimum, accordingly: Collection I – Less than 100,000 gallons per day (gpd) Collection II – 100,000 gpd to 1 million gallons per day (MGD) Collection III – Over 1 MGD</p> <p><u>Wastewater Treatment</u> Four classifications (A to D) based on type and complexity of the system and daily average minimum flow. Class D is most advanced facility and highest level of operator certification.</p>	<p>Require an individual to pass the applicable TCEQ exam to obtain a license (minimum score of 70%)</p> <p>Wastewater A - Master’s Degree & 4 years • Bachelor’s Degree and 5 years • High School or General Equivalency Diploma (GED) and 8 years Wastewater B - Bachelor’s Degree with 2.5 years of experience • High School or GED with five years of experience Wastewater C – HSD or GED with two years of experience Wastewater D - HSD or GED with no experience</p>	<p>Licenses are valid for three years</p> <p>All wastewater treatment and collection system licenses require 30 hours of Continuing Education (CE) to be eligible for renewal. CE hours are given for successful completion of TCEQ approved training courses.</p>	<p>State has its own NTKC and examination process.</p> <p>Wastewater Treatment Plant Operators</p> <ul style="list-style-type: none"> • Class D • Class C • Class B • Class A <p>Wastewater Collection System Operators</p> <ul style="list-style-type: none"> • Class III • Class II • Class I

Program and Website: Commission on Environmental Quality - <https://www.tceq.texas.gov/licensing/licenses/wwlic>

Water – Utah			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Use points and population served for classification: Small System: 25-500 people, 0-10 points Grade 1: 501-1,500 people, 0-10 points Grade 2: 1,501-5,000 people, 10-25 points Grade 3: 5,001-15,000 people, 26-50 points Grade 4: > 15,000 people, >51 points</p> <p><u>Water Treatment</u> Classified based on a point system or the size of the population served, whichever results in a higher classification. The point system ranks design flow (in MGD), source water, water quality, and complexity of treatment. Grade 1: ≤ 1,500 people, 0-40 points Grade 2: 1,501-5,000 people, 41-65 points Grade 3: 5,001-15,000, 66-90 points Grade 4: > 15,000, >91 points</p>	<p>Applicants must pass an exam (at the same grade as the system they are operating) with a minimum grade of 70% and meet the following experience and education requirements:</p> <p>Small system and Grade 1: 1 year of experience (does not have to be in direct responsible charge, or DRC). Grade 2: 2 years of experience (0 years in DRC) with any level of education over a HSD; without HSD, 3 years of experience (0 years in DRC) Grade 3: With Associate’s degree or higher, 2 years of experience (1 year in DRC); with only HSD, 4 years of experience (2 in DRC); without HSD, 6 years of experience (3 in DRC). Grade 4: With a Bachelor’s degree or higher, 4 years of experience (2 in DRC); with an Associate’s degree, 6 years of experience (2 in DRC); with only HSD, 8 years of experience (4 in DRC); without HSD, 10 years of experience (5 in DRC).</p>	<p>All certificates must be renewed every 3 years.</p> <p>CEUs are required for the renewal of all certificates and must be earned within the 3-year renewal period.</p> <p>Requirements apply to all operators:</p> <p>Small systems and Grade 1: 2 CEUs Grade 2: 2 CEUs Grade 3: 3 CEUs Grade 4: 3 CEUs</p>	<p>State has own NTKC and exam preparation and conduct process.</p> <p>Provides study presentations Advanced Math .PPT Basic Math .PPT Disinfection .PPT Operation and Maintenance .PPT Pumps and Motors .PPT Rules Update .PPT Safety and Security .PPT Water Treatment Operation and Maintenance .PPT</p> <p>Study Guides: Basic is for small system through grade four, advanced is for grades 3-4.</p>

Program and Website: Department of Environmental Quality -

<https://deq.utah.gov/Certification/certification/drinkingwater/certifiedoperators.htm>

Reciprocity: Approves on a case-by-case basis if the other state has equivalent standards to Utah.

Wastewater – Utah			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Based on population served Grade I - 3,500 or less people Grade II - 3,501 to 15,000 Grade III - 15,001 to 50,000 Grade IV - 50,001 and more</p> <p><u>Small Lagoon Systems</u> Grade I – serving less than 3,500; combined certificate for treatment and collection system.</p> <p><u>Wastewater Treatment</u> Based on facility point system Grade I - 30 or less points Grade II - 31 to 55 points Grade III - 56 to 75 points Grade IV - 76 or more points</p> <p>There is a “restricted” certificate for operators who pass the examinations but don’t meet all the other requirements.</p>	<p>Applicants must have a high school diploma or equivalency, pass an exam (at the same grade as the system they are operating) with a minimum grade of 70%, and meet the appropriate experience and education requirements.</p> <p>"Qualification Points" means the accumulated points earned through education and experience required to obtain a certification without restriction.</p> <p>Grade I - minimum 13 points required.</p> <p>Grade II - minimum 14 points required.</p> <p>Grade III - minimum 16 points required.</p> <p>Grade IV - minimum 18 points required.</p>	<p>All certificates must be renewed every 3 years.</p> <p>CEUs are required for the renewal of all certificates and must be earned within the 3-year renewal period.</p> <p>Requirements apply to all operators:</p> <p>Small lagoon systems and Grade I: 2 CEUs</p> <p>Grade II: 2 CEUs</p> <p>Grade III: 3 CEUs</p> <p>Grade IV: 3 CEUs</p>	<p>Utah's Wastewater Operator Certification Program uses standardized exams produced by the Association of Boards of Certification (ABC).</p> <p>Also provides:</p> <p>Old Utah Wastewater Practice Exams and Study Questions</p>

Program and Website: Department of Environmental Quality - <https://deq.utah.gov/Certification/certification/wq/opcert/index.htm>

Water – Vermont			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Class D - Systems Purchasing all of their water or operators who only work on the Distribution System</p> <p><u>Water Treatment</u> Groundwater only Class 1A - TNC systems with ion exchange for water softening, cartridge filters, and/or limestone contactors. Class 1B - TNC systems with Disinfection from Chlorine or UV Class 2 - Disinfection with Chlorine or UV, ion exchange for softening, and/or limestone contactors Class 3 - Disinfection other than Chlorine or UV, sequestering or filtration of manganese or iron, fluoridation, corrosion control, pH control, air stripping, granular activated adsorption, ion exchange, and/or aeration Surface water or GWUDI Class 4A1 Systems with bag filtration, cartridge filtration, membrane filtration, slow sand filtration, and/or other similar technologies, do not use coagulants Systems using rapid sand filtration Class 4A - serving from 25 to 500 people 4B - 501 to 3,300 people 4C - more than 3,300 people.</p>	<p>Applicants must have at least a HSD or GED, pass an exam of the associated class level (except Class 1), submit a letter from their supervisor that verifies knowledge and years of experience (except Class 1), and meet the following operating experience requirements:</p> <p>Class 1: No experience Classes 2 & 3: 1.5 years Classes 4A1 & 4A: 2 years Class 4B: 2.5 years Class 4C: 3 years Class D: 1.5 years</p> <p>Substitutions of related schooling may be made for up to 50% of required experience.</p> <p>There are three types of operator classifications: Operator in Training (OIT), a Provisional Certification, and a Full Certification.</p>	<p>Certificates for all system classes must be renewed every 3 years.</p> <p>Operators must complete the following continuing education during each 3-year renewal period:</p> <p>Class 1A: None; encouraged to attend at least 8 hours Class 1B: Minimum 3 hours Class 2: Minimum 10 hours Class 3, 4, D: Minimum 20 hours</p> <p>DWGWPD approves training courses by third party providers</p>	<p>Specific operator NTKC not cited. State conducts certification exams twice per year and do not have link to standardized national exam (like ABC).</p>

Program and Website: Department of Environmental Conservation - <http://drinkingwater.vt.gov/opcertcertification.htm>

Reciprocity: May waive examination if other state has equivalent certification standards, but reciprocity shall not be granted at the highest grade for each category, except upon examination.

Wastewater – Vermont			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Certification for Collection Systems Operators is a voluntary program administered through the New England Water Environment Association, Inc. There are four Grades of certification based on system complexity and flow capacity.</p> <p><u>Wastewater Treatment</u> Classification is based on a point system established by evaluating the facility's treatment process and design capacity, as follows: Grade I – 0 to 50 points Grade II – 51 to 90 points Grade III – 91 to 120 points Grade IV – 121-150 points Grade V – 151 points and greater</p> <p>Operator certificates will be graded in accordance with the facility type, complexity, and design flow of facilities as classified by the Department. The grades are Grade I to Grade V, with Grade V being the most advanced.</p>	<p>Applicants shall be able to read and write English and have a HSD or GED or equivalent. Each grade shall require successful completion of an operator certification exam and experience, as follows: Grade I – exam and 2 years Grade II – exam and 2 years Grade III – exam and 3 years Grade IV – exam and 4 years Grade V – exam and 5 years</p> <p>Education may be substituted for experience for up to one half of the experience requirement established.</p> <p>Certificates and degrees and the amount of education that may be substituted for experience is as follows: Technical school or college certificate -- up to 6 months; Two-year associate's degree -- up to 1 year; Four-year bachelor's degree -- up to 2 years; Master's degree -- up to 3 years.</p>	<p>Once fully certified, must renew every five years. the following number of completed hours is the minimum required to qualify the applicant for renewal:</p> <p>Grade I - 20 hours Grade II - 25 hours Grade III - 30 hours Grade IV - 30 hours Grade V - 40 hours</p> <p>All courses to be used for renewal training must be pre-approved by the Commissioner or delegated authority.</p>	<p>Specific operator NTKC not cited.</p> <p>State conducts certification exams twice per year and do not have link to standardized national exam.</p>

Program and Website: Department of Environmental Conservation <http://dec.vermont.gov/watershed/wastewater/treatment-pollution-abatement-facility-operator-license>

Water – Virginia			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Nothing found.</p> <p><u>Water Treatment</u> System classification is based on population served, complexity of treatment, and design capacity. There are six classifications (1-6), with Class 1 being the most complex system.</p> <p>Class 1: Serves ≥ 50,000 or has a rated capacity of ≥ 5.0 MGD; various treatment methods Class 2: Serves 5,000 - 50,000 or has a capacity of 0.5 MGD - 5.0 MGD; various treatment methods Class 3: Serves < 5,000 people or has a capacity of < 0.5 MGD; different treatment methods than Class 4 Class 4: Serves < 5,000 people or capacity of < 0.5 MGD; various treatment methods Class 5: Serves ≥ 400 people; no treatment or hypochlorination for disinfection Class 6: Serves < 400 people; no treatment</p>	<p>Applicants must be at least 18 years old and pass a Board-approved and classification-specific exam, and meet the following education and experience requirements:</p> <p>Class 1: Bachelor’s degree, Class 2 license and 2.5 years of experience; or Class 2 license with 5 years of experience with HSD or GED; or Class 2 license and 10 years of experience without a HSD or GED. Class 1 operators can operate all classes of system.</p> <p>Class 2: Bachelor’s degree and 18 months of experience; or Class 3 license and 3 years of experience with HSD or GED; or Class 3 license and 6 years of experience without a HSD or GED</p> <p>Class 3: Bachelor’s degree and 1 year of OIT experience; or 2 years of OIT experience with HSD or GED; or Class 4 license and 4 years OIT experience without a HSD or GED</p> <p>Bachelor’s degree for any level must be in engineering or engineering technology, or in physical, biological or chemical science.</p> <p>Class 6, 5, or 4: HSD or GED and 6 months OIT experience; or 1 year of OIT experience without a HSD or GED</p> <p>Substitutions for experience requirements are allowed.</p>	<p>Licenses are valid for 2 years. Operators must meet the following continuing education requirements for each class:</p> <p>Class 1, 2, and 3: 20 contact hours Class 4: 16 contact hours Class 5: 8 contact hours Class 6: 4 contact hours of continuing education within the 2 years before certificate expiration.</p> <p>Of the total 20 hours required, a minimum of five contact hours pertaining to utility management is required of Class 1 and Class 2 waterworks operators.</p>	<p><i>Virginia's Board-approved exams for waterworks and wastewater works operator licensing are the national exams of the Association of Boards of Certification (ABC).</i></p> <p>Links are provided to ABC’s Need-to-Know criteria.</p>

Program and website: Virginia Department of Health, found at: <http://www.vdh.state.va.us/ODW/Licensure.htm>;

Reciprocity: An applicant holding a valid license or certificate in another jurisdiction who meets the requirements, including having equivalent experience and education, shall pass a board-approved examination to become licensed.

Wastewater – Virginia			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No requirements were identified</p> <p><u>Wastewater Treatment</u> Class 4 -- biological mechanical methods with capacity > 1,000 gallons per day but = or < than 0.04 MGD; employing natural treatment methods with capacity > than 1,000 gallons per day but = or < than 1.0 MGD; or any other facility classified as a Class 4 wastewater works. Class 3 - biological treatment methods with capacity > than 0.04 MGD, but = or < than 0.5 MGD; or using natural treatment methods with capacity > than 1.0 MGD; or using advanced waste treatment methods with capacity > than 1,000 gallons/day but = or < than 0.1 MGD; or facility classified as a Class 3 or Class 4 wastewater works facility. Class 2 - biological treatment methods and a capacity > than 0.5 MGD but = or < than 5.0 MGD; or using advanced waste treatment and capacity > than 0.1 MGD but = or < than 2.5 MGD; or a facility classified as a Class 2, Class 3, or Class 4 wastewater works. Class 1 - biological treatment methods and capacity > than 5.0 MGD; wastewater works using advanced waste treatment methods and capacity > than 2.5 MGD; or a facility classified as a Class 1, Class 2, Class 3, or Class 4</p>	<p>Class 4 - HSD or GED - 6 months at Class 4 or higher facility; No HSD or GED - One year at Class 4 or higher facility. Class 3 - Bachelor's or master's – 6 months at Class 4 or higher facility; Associate's degree - 9 months at Class 4 or higher facility, or 6 months experience; HSD or GED - One year at Class 4 or higher facility or 6 months experience; No HSD or GED -- Class 4 license, 3 years Class 3 or higher Facility, or 1.5 years of experience. Class 2 - Bachelor's or master's degree - One year at Class 3 or higher facility or 6 months experience; Associate's degree - 18 months at Class 3 or higher facility or 9 months experience; HSD or GED - 2 years at Class 3 or higher facility or 1 year of experience; No HSD or GED -- Class 3 license, 5 years at Class 2 or higher facility or 3.5 years of experience. Class 1 - With Bachelor's or master's degree - Class 2 license, 2 years at Class 2 or higher facility or One year of experience; With Associate's degree - Class 2 license, 3 years at Class 2 or higher Facility, or 1.5 years of experience; HSD or GED -- Class 2 license, 4 years at Class 2 or higher facility, or 2 years of experience; No HSD or GED -- Class 2 license, 9 years at Class 2 or higher-facility, or 4.5 years of experience.</p>	<p>Class 1, Class 2, and Class 3 waterworks and wastewater works operators shall obtain a minimum of 20 contact hours. Class 4 waterworks and wastewater works operators shall obtain a minimum of 16 contact hours.</p> <p>Of the total 20 hours required, a minimum of five contact hours pertaining to utility management is required of Class 1 and Class 2 wastewater works operators.</p>	<p><i>Virginia's Board-approved exams for waterworks and wastewater works operator licensing are the national exams of the Association of Boards of Certification (ABC).</i></p> <p>Links provided to ABC's Need-to-Know criteria.</p>

Program and website: Virginia Department of Health - <http://www.vdh.virginia.gov/sitesearch/?q=wastewater+operator+certification>

Water – Washington			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Based on population served: Group S: < 251 Group 1: 251 - 1,500 Group 2: 1,501 - 15,000 Group 3: 15,001 - 50,000 Group 4: > 50,000</p> <p><u>Water Treatment</u> Classified using a point system that takes into account size, type of source water, and complexity of treatment. The standards used are the ABC's <i>Purification Plant Criteria</i>. Class 1: < 31 points Class 2: 31 to 55 points Class 3: 56 to 75 points Class 4: >75 points</p> <p>There are 4 Water Treatment Plant Operator (WTPO) certification levels and 4 Water Distribution Manager (WDM) levels. Group S distribution systems only need a water distribution specialist (WDS).</p>	<p>All WDMs and WTPOs must have at least a HSD or GED (although one year of water-related experience may substitute for each year of education through twelfth grade), meet additional education and experience requirements.</p>	<p>Certificates must be renewed every year except that an initial certificate issued after October 1st will be valid through the following calendar year.</p> <p>During each professional growth reporting period of at least 3 years, operators must accumulate a minimum of three CEU or college credits or advance as a WDM or WTPO by examination to a higher-level classification.</p>	<p>Associated Boards of Certification (ABC) is the exam administrator and develops all Waterworks operator exams.</p> <p>ABC's NTKC cover the core competencies that are included in each exam level.</p>

Program and Website: Department of Health; found at :

<http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/RegulationandCompliance/WaterworksOperatorCertification>

Reciprocity: To qualify for reciprocity, you have to meet Washington State education and experience requirements, have passed a standardized Association of Boards of Certification (ABC) equivalent exam with a score of 70% or higher, hold a valid certification in good standing.

Wastewater – Washington			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Certification provided by a non-state agency organization called the Wastewater Collection Professionals Association. Four levels of certification:</p> <ul style="list-style-type: none"> • WWC-I • WWC-II • WWC-III • WWC-IV <p><u>Wastewater Treatment</u> Classifications of wastewater treatment facilities/plants are based on a combination of the type and complexity of treatment and the design flow (in MGD). There are five levels of wastewater certification in Washington - Operator in Training (OIT) and Group I to IV, which correspond with the four classifications of treatment plants. Class IV/Group IV is the most advanced treatment and the highest level of certification.</p>	<p>All levels require a HSD or GED, plus: OIT – 3 months of domestic wastewater treatment plant operating experience, 3 relevant college credits or CEUs. Group I – 1 year of experience, no substitution. When upgrading from the OIT level after 1 year of experience, you must apply to receive the upgrade. Group II – 3 years of experience, up to 1.5 years can be substituted with experience or education. Group III – 90 relevant credits/CEUs and 4 years of experience with at least 2 years at a Class II or higher plant. Excess experience substitute for the education at 1 year of experience for the first 45 credits and 3 years of experience for the second 45 credits. (8 years of experience is needed to substitute for all education.) Up to 2 years of experience can be substituted with experience or education if 2 years is at a Class II or higher plant. Group IV – 180 relevant credits/CEUs and 4 years of experience with at least 2 years at a Class III or higher plant. Excess experience can substitute for the education at 1 year each of excess experience for the first 90 credits and 3 years each of excess experience for the second 90 credits. (12 years total experience needed to substitute for all education.) Up to 2 years can be substituted with experience or education as long as 2 years of experience</p>	<p>The three required continuing education units (CEU) needed to meet professional growth must be relevant to wastewater treatment, operation, and maintenance in accordance with the "ABC CEU Course Topic Guidelines for Wastewater Treatment Operators".</p> <p>Wastewater training is directly related to improving competencies in areas that relate to operating a wastewater treatment plant. Specific trainings include things like wastewater treatment process, operation and maintenance of equipment, and lab procedures</p>	<p>Associated Boards of Certification (ABC) is the exam administrator and develops all Waterworks operator exams.</p> <p>ABC's NTKC cover the core competencies that are included in each exam level.</p>

Program and website: Department of Ecology- http://www.ecy.wa.gov/programs/wq/wastewater/op_cert/index.html

Water – West Virginia			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution and Treatment</u> Systems are classified based on source water, population served, and complexity of treatment.</p> <p>There are six classes of systems, including 1D, Water Distribution (WDS), and Class I, II, III, and IV, with Class IV being the highest.</p> <p>All CWSs and all NTNCWSs except R systems are, at a minimum, Class I systems; all surface water and GWUDI systems are, at a minimum, Class II systems; and all TNCWSs are 1D systems.</p> <p>There are seven classes of certified operators; 1D, WD, OIT, and Class I, II, III, and IV.</p>	<p>All applicants must be at least 18 years old, have a HSD or GED (not required for Class 1D), complete an approved certification course, pass the Class-level exam with a minimum score of 70 percent and meet the following experience requirements:</p> <p>1D and R: None WD: 1,000 hours experience at a WDS or higher PWS. Class I: 2,000 hours experience at a PWS. Class II: 4,000 hours experience at a PWS system, with at least 2,000 hours at Class II or higher PWS. Class III: 90 CEUs, and 8,000 hours experience at a Class I or higher PWS, with at least 2,000 at a Class II or higher PWS. Class IV: 180 CEUs, and 10,000 hours experience at a Class I or higher PWS with at least 2,000 hours at a Class III or higher PWS. Class II-IV operators may substitute experience for education and vice versa.</p>	<p>Operators must renew their certification every 2 years.</p> <p>Operators must complete and document the required number of approved continuing education hours for their highest classification level to submit with their renewal application:</p> <p>1D: 0 WDS: 6 OIT: 6 Class I: 12 Class II, III, and IV: 24</p>	<p>Exams are run by Certification & Training Program and not linked to standardized exam like ABC.</p> <p>No specific Operator NTKC are stated, but organization are recommended for education and exam preparation.</p>

Program and website: Department of Health and Human Resources - <http://www.wvdhhr.org/oehs/eed/swap/training&certification/>

Reciprocity: If applicant meets the educational and work experience requirements and passes the West Virginia certification examination equivalent to the certification level of the other jurisdiction.

Wastewater – West Virginia			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Class C – A facility upstream of the wastewater treatment plant used to collect and convey wastewater. It may include pumps, valves, manholes, tanks and other appurtenances.</p> <p><u>Wastewater Treatment</u> Based on permitted flow capacity and complexity of wastewater treatment processes. Class H –flows less than 600 gpd. Class S –flows greater than 600 gpd, but less than or equal to 0.05 MGD. Class I –flows greater than 0.05 MGD, but less than or equal to 1.0 MGD. Class II –flows greater than 1.0 MGD, but less than or equal to 1.75 MGD. Class III – flows greater than 1.75 MGD but less than 6.0 MGD. Class IV – flows equal to or greater than 6.0 MGD. Advanced – Designation held in addition to Class S and Class I through Class IV classifications, where advanced treatment methods are used.</p>	<p>Must be at least 18 years old, have a HSD or GED, complete certification course, pass the Class-level exam with a score of 70% and meet the following: Class H, S, C - No experience required; and approved class WW OIT - No experience required. Class I WW - Approved Class I course; 2,000 hr (~1 yr full-time) at a public WW system; experience from Class S/Class C may count for up to 600 hr. Class II WW - Approved Class II course; 4,000 hr (~2 yrs full-time) at a Class I or higher; Experience from Class S or C may count for up to 600 hr; May substitute max. of 1 yr of experience with 45 CEUs. Class III WW - 90 CEUs; May substitute max. 45 CEUs with additional 1 yr of experience; 8,000 hr (~4 yr full-time) experience with 2,000 of those at/as a Class II or higher documented. Experience from Class S and C may count for up to 600 hr.; May substitute max. of 2 yr of experience with additional 90 CEUs. Class IV WW - 180 CEUs; May substitute maximum 90 CEUs with additional 2 yr of experience; 10,000 hours (~5 yr full-time) certified experience with 4,000 at/as a Class III or higher documented; May substitute max. 2.5 yr of experience with additional 135 CEUs</p>	<p>Operators must renew their certification every 2 years.</p> <p>Operators must complete and document the required number of approved continuing education hours for their highest classification level to submit with their renewal application:</p> <p>H: No CEHs. S: three CEHs; C: six CEHs; WW OIT: six CEHs; Class I and II: twelve CEHs; Class III and IV: twenty-four CEHs</p>	<p>Exams are run by Certification and Training Program and not linked to standardized exam like ABC.</p> <p>No specific Operator NTKC are stated.</p>

Program and website: Department of Health and Human Resources - <http://www.wvdhhr.org/oehs/eed/swap/training&certification/>

Water – Wisconsin			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution and Treatment</u> All PWS are classified as Class 1 with subclasses based on the type of treatment or process used at the system, as follows: D: Distribution system G: Ground water source O: General water system operation Z: Zeolite and resin treatment I: Oxidation and filtration treatment S: Surface water source L: Lime-soda ash treatment V: Specialized treatment (for example, air stripping, granular activated carbon)</p> <p><u>Municipal Waterworks Operator (MC)</u> Grade T - for Operator in Training (OIT) Grade 1 - with the same subclasses as above.</p> <p><u>Small Water Systems Operators</u> OTM: Other than Municipal Waterworks systems serving groups of 25 or more year-round residents. NN: Non-transient Non-community water systems.</p>	<p>Applicants must have at least an HSD or GED (or at least 2 years of experience operating a waterworks prior to December 1, 2000), and pass the appropriate subclass exam by scoring at least 75%.</p> <p>MC Grade 1 operators must also complete 1 year of satisfactory subclass experience.</p> <p>Operators who already hold current municipal waterworks certifications in subclasses D, G or S are also qualified to operate OTM/NN water systems, and do not need to take the general operation exam.</p>	<p>Certificates must be renewed every 3 years.</p> <p>Operators must complete the following CEUs every 3 years:</p> <p>MC, Grades T and 1: 18 hours</p> <p>Operator-in-charge (for surface water systems only): 24 hours</p> <p>Operators of other-than-municipal (OTM/NN) and NTNCWSs: 6 hours</p> <p>Operators may not use more than 6 hours of health and safety training per 3-year renewal period.</p>	<p>State runs exams. Not linked to standardized national exam like ABC.</p> <p>No specific NTKC, but study guides are provided to help prepare for the exams:</p> <ul style="list-style-type: none"> • Distribution • Groundwater • Iron removal • Lime softening • Surface water • VOC Removal • Zeolite softening

Program and website: Department of Natural Resources, <http://dnr.wi.gov/regulations/opcert/muniWaterworks.html>

Reciprocity: To apply for reciprocity in the State of Wisconsin you must have a valid current license in another state. You must have taken exam(s) in that state to attain your license or certification.

Wastewater – Wisconsin			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Sanitary Sewage Collection System</p> <p><u>Wastewater Treatment</u> Biological Treatment</p> <ul style="list-style-type: none"> • A1 Suspended Growth Processes -- Activated Sludge and variants • A2 Attached Growth Processes -- Trickling filters, RBCs and biotowers • A3 Recirculating Media Filters • A4 Ponds, Lagoons, and Natural Systems • A5 Anaerobic Treatment of Liquid Waste -- High strength liquid waste treatment system <p>Solids Separation B -- Solids Separation Clarifiers, membranes, filters, tertiary phosphorus removal, etc.</p> <p>Solids Treatment C -- Biological Solids/Sludge Handling, Processing, and Re-use Aerobic and anaerobic digestion, thickening, dewatering, land application</p> <p>Nutrient Removal P -- Total Phosphorus</p> <p>Nutrient Removal N -- Total Nitrogen</p> <p>Disinfection D -- Disinfection Chlorination, ultraviolet radiation, ozone</p> <p>Laboratory L -- Laboratory Registered or certified on-site laboratories</p> <p>Special U Unique Treatment Systems -- Unique, special treatment plants that use biological, chemical or physical methods</p>	<p>Must pass both the basic general wastewater exam and at least one basic subclass exam. The subclass exam(s) is dependent upon the processes at the treatment plant at which you work, or would like to work. Prior education or training is not required but is recommended.</p> <p>Subclasses -- Wastewater treatment plants are assigned a basic or advanced classification rating. Subclasses are also assigned to wastewater treatment plants that correspond to the processes used at the plant.</p> <p>Levels -- The requirements for wastewater operator certification for each level are: Operator-in-Training (OIT): Pass Basic General Wastewater Exam* and Basic Subclass Exam</p> <p>Basic: One year of subclass specific experience; Advanced: Obtain 10 advanced points and submit an advanced certification application.</p>	<p>Certification must be renewed every three years.</p> <ul style="list-style-type: none"> • Operator-in-training and basic level operators require 18 hours of continuing education. • Advanced level operators require 24 hours of continuing education. <p>Credits must be earned within the three- year license period. The continuing education must be relevant towards the operation of a wastewater treatment plant.</p>	<p>State runs exams. Not linked to standardized national exam like ABC.</p> <p>No specific NTKC, but Study guides are available.</p>

Program and website: Department of Natural Resources and found at: <http://dnr.wi.gov/regulations/opcert/>

Water – Wyoming			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems (WD)</u> Classified into two levels (Level 1 and 2), Level 1 being the lowest, based on population and whether or not a booster station is used.</p> <p><u>Water Treatment (WT)</u> Classified into four levels (Level 1-4), Level 1 being the lowest, based on the facility classification scheme presented in the 2007 ABC Standards manual, which is based on unit operations.</p> <p>Policy outlining classification of these facilities is available on the Operator Certification web site.</p> <p>Water treatment and distribution operators are classified according to the level of facility they are qualified to operate.</p>	<p>All must demonstrate HSE, pass an area/level specific exam with a score of 70 %, and meet these experience and training requirements:</p> <p>Level 1 WT: Minimum 6 mo experience at a Level 1 or higher WT facility; 35 hr of training. This license will allow operators to operate Level 1 WT and WD facilities.</p> <p>Level 1 WD: Minimum 6 mo experience at a Level 1 or higher WD facility; 35 hr of training.</p> <p>Level 2 WT: Minimum 1 yr experience at a Level 1 or higher WT facility; 70 hr of training.</p> <p>Level 2 WD: Minimum 1 yr experience at a Level 1 or higher WD facility; 70 hr of training.</p> <p>Level 3 WT: Min. 2 yr experience, 1 of which must be at a Level 2 or higher WT facility; 300 hr of training.</p> <p>Level 4 WT: Minimum 3 yr experience, 2 of which must be at a Level 3 or higher WT facility; 400 hr of training.</p>	<p>Certificates are valid for 3 years.</p> <p>Operators must earn 24 hours of continuing education within the 3-year period to qualify for a certification renewal.</p> <p>A minimum of 8 of these 24 hours of continuing education needed for renewal must be earned in topic areas listed on the DEQ/WQD Operator Certification Program web site.</p> <p>One CEU (Continuing Education Unit) is equal to 10 hours of training. Please submit all college transcripts to DEQ for approval.</p>	<p>Examinations are linked to ABC NTKC and study guides are available.</p> <p>The following topics are considered core topics that are essential for operators to understand well.</p> <ul style="list-style-type: none"> • Backflow prevention, hazard determination • Developing O&M Manuals/documentation/record keeping • Disinfection • Distribution System operation and maintenance and directional line flushing • Instrumentation, SCADA, meters • Pumps (general or specific to the area of your license) • Regulatory sampling, reporting, timing • Regulatory updates (SDWA, CWA, Chapters 5, 11, and 12) • Water Treatment Plant operation and maintenance

Program and Website: Department of Environmental Quality - <http://deq.wyoming.gov/wqd/operator-certification/>

Reciprocity: May be obtained if the applicant’s education and experience meets Wyoming’s minimum requirements, and the applicant has passed an exam that meets Wyoming’s minimum requirements.

Wastewater – Wyoming			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p>Collection Systems and Treatment All wastewater treatment and collection system facilities shall be classified in accordance with the Points and Classification System from the Association of Boards of Certification Program Standards, Copyright 1999-2007.</p> <p>Classification levels are:</p> <p>Wastewater Treatment Level 1 through 4</p> <p>Wastewater Collection Level 1 or 2</p>	<p>All must demonstrate HSE, pass an area/level specific exam with a score of 70 %, and meet these experience and training requirements:</p> <p>Level 1 Wastewater Treatment (covers Wastewater Treatment and Collection facilities) 6 months of Wastewater 35 hr in Wastewater Collection (covers ONLY Level 1 Collection facilities) 6 months of Collection 35 hr in Collection</p> <p>Level 2 Wastewater Treatment 1 year of Wastewater 70 hr in Wastewater Collection 1 year of Collection 70 hr in Collection</p> <p>Level 3 Wastewater Treatment 2 yr, 1 at Class 2 plant or higher 300 hr in Wastewater</p> <p>Level 4 Wastewater Treatment 3 yr, 2 at Class 3 plant or higher 400 hr in Wastewater</p>	<p>Certificates are valid for 3 years.</p> <p>Operators must earn 24 hours of continuing education within the 3-year period to qualify for a certification renewal.</p> <p>A minimum of 8 of these 24 hours of continuing education needed for renewal must be earned in topic areas listed on the DEQ/WQD Operator Certification Program web site.</p> <p>You may not apply defensive driving training hours towards certificate renewals.</p>	<p>Examinations are linked to ABC NTKC and study guides are available.</p> <p>The following topics are considered core topics that are essential for operators to understand well.</p> <ul style="list-style-type: none"> • Backflow prevention, hazard determination • Developing O&M Manuals/documentation/record keeping • Disinfection • Collection System operation and maintenance • Instrumentation, SCADA, meters • Pumps (general or specific to the area of your license) • Regulatory sampling, reporting, timing • Regulatory updates (SDWA, CWA, Chapters 5, 11, and 12) • Wastewater Treatment Plant operation and maintenance

Program and Website: Department of Environmental Quality - <http://deq.wyoming.gov/wqd/operator-certification/>

Water – Commonwealth of the Northern Marianas Islands (CNMI)			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classified based on population served: Class 1 - 1,500 and less Class 2 - 1,501 to 15,000 Class 3 - 15,001 to 50,000 Class 4 - 50,001 and greater</p> <p><u>Water Treatment</u> Class 1 - Groundwater sources using disinfection on a continuous basis. Class 2 - Membrane filtration, cartridge filtration, or desalination (including distillation, ion exchange, and reverse osmosis) of groundwater, purchased water, or water from rainwater roof catchments. Class 3 - Any filtration (except conventional or direct filtration) of surface water or groundwater under the direct influence of surface water. Class 4 - Conventional filtration or direct filtration of surface water.</p>	<p>Must pass a validated examination with a minimum score of 70%.</p> <p>Must have at least a high school diploma or the equivalent. To be certified as an operator-in-training water treatment plant operator or water distribution operator, an applicant must be enrolled in a high school degree program, or have at least a high school diploma or the equivalent thereof.</p> <p>Experience requirements <u>Water Treatment</u> OIT - 0 Class 1 - 1 Class 2 - 3 Class 3 - 4 Class 4 - 4</p> <p><u>Distribution Systems</u> OIT - 0 Class 1 - 1 Class 2 - 4 Class 3 - 6 Class 4 - 8</p> <p>Operator-in-Training (OIT) is a certified operator, but cannot be the supervising operator in responsible charge over the system.</p>	<p>Certification is valid for three years.</p> <p>For renewal, must complete 10 hours of continuing certification for each year of their certificate (i.e. 30 hours for a three-year certificate).</p>	<p>CNMI-DEQ uses an online examination through the Association of Boards of Certification (ABC).</p>

Program and Website: Division of Environmental Quality (DEQ) administers the CNMI operator program; found at:

<http://deq.gov.mp/sec.asp?secID=43>

Reciprocity: The Division will recognize the certification of operators who have current drinking water operator and/or wastewater certifications in good standing from any U.S. state, territory, or possession, or from the Association of Boards of Certification.

Wastewater – Commonwealth of the Northern Marianas Islands (CNMI)			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> Based on population served: Class 1 - 1,500 and less Class 2 - 1,501 to 15,000 Class 3 - 15,001 to 50,000 Class 4 - 50,001 and greater</p> <p><u>Wastewater Treatment</u> Classified on basis of point system: Class 1 – 30 points or less Class 2 – 31 to 55 points Class 3 – 56 to 75 points Class 4 – 76 points and great</p> <p>The point system is based on: size, variation in raw waste, levels of treatment (preliminary, primary, secondary, tertiary), solids handling, disinfection practices, effluent discharges, instrumentation, and laboratory practices and control (bacterial, biological, chemical, physical)</p> <p>The classifications of operators correspond with the class of facility at which they have been certified to work.</p>	<p>Must pass a validated examination with a minimum score of 70%.</p> <p><u>Education Requirements</u> Must have at least a high school diploma or the equivalent. To be certified as an Operator-in-Training (OIT) wastewater treatment plant operator or wastewater collection operator, an applicant must be enrolled in a high school degree program, or have at least a HSD or the equivalent.</p> <p><u>Experience requirements</u> Wastewater Treatment OIT - 0 Class 1 - 1 Class 2 - 3 Class 3 - 4 Class 4 - 4</p> <p>Wastewater Collection OIT - 0 Class 1 - 1 Class 2 - 3 Class 3 - 4 Class 4 – 4</p>	<ul style="list-style-type: none"> • Water or wastewater operator certification is valid for three years. • For renewal, must complete 10 hours of continuing certification for each year of their certificate (i.e. 30 hours for a three-year certificate). • See above in Water table for what is considered eligible and not eligible for continuing education. 	<p>CNMI-DEQ uses an online examination through the Association of Boards of Certification (ABC).</p>

Program and Website: Bureau of Environmental and Coastal Quality - <http://deq.gov.mp/article.asp?secID=6&artID=32>

Water – Puerto Rico			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Could not find information.</p> <p><u>Water Treatment</u> Treatment systems are classified based upon a point system that takes into account design flow, population, treatment units, and treatment type.</p> <p>Category I: ≤ 45 points Category II: 36 - 75 points Category III: 76 - 100 points Category IV: ≥ 101 points</p> <p>Operators are classified based upon the category of system they operate, education, and experience.</p>	<p>Operator I: Can operate a Category I system, and needs an HSD and 1 year of experience.</p> <p>Operator II: Can operate a Category I or II system, and needs an HSD and 1 year as a certified Operator I.</p> <p>Operator III: Can operate a Category I, II, or III system, and needs an HSD and 1 year as a certified Operator II; or 30 credit hours in chemistry, biology, physics, or mathematics.</p> <p>Operator IV: Can operate a Category I, II, III, or IV system, and needs an HSD and 1 year as a certified Operator III; or Associate’s degree in a related field.</p>	<p>Permanent licenses must be renewed every 3 years and provisional licenses are issued for 1 year.</p> <p>In order to renew a certificate, operators must complete CEUs:</p> <p>Operator I: 10 CEUs Operator II: 15 CEUs Operator III: 20 CEUs Operator IV: 25 CEUs</p>	<p>Exams administered by territory.</p> <p>No specific NTKC stated, but the website provided the following list of subjects that are to be included on a/the multiple-choice type examination:</p> <ul style="list-style-type: none"> • Biology • Physical Chemistry • Public Health • Water Treatment Process • Laws and Regulations • Plant Safety • Maintenance • Mathematics

Program and Website: Department of State- <https://estado.pr.gov/en/treatment-plant-operators-of-water-and-wastewater>

Reciprocity: Could not find any references either way.

Wastewater – Puerto Rico			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Collection Systems</u> No information was found.</p> <p><u>Water Treatment</u> Four classifications for operators, presumably linked to four levels of treatment facilities:</p> <ul style="list-style-type: none"> • Operator I • Operator II • Operator III • Operator IV 	Nothing specific available on website.	Nothing specific available on website.	<p>Could not find anything except the following list of subjects that are to be included on a/the multiple-choice type examination:</p> <ul style="list-style-type: none"> • Biology • Physical Chemistry • Public Health • Water Treatment Process • Laws and Regulations • Plant Safety • Maintenance • Mathematics

Program and Website: Department of State - <https://estado.pr.gov/en/treatment-plant-operators-of-water-and-wastewater/>

Water – Navajo Nation			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p><u>Distribution Systems</u> Classified by size and characteristics: Level 1 – Population less than 3,300; Groundwater disinfection by hypochlorite only. Level 2 – Population serviced between 3,301 and 10,000; gaseous and other chlorine disinfectant, or five or more pressure zones, or recycled water distribution, or system is blending sources to meet MCL. Level 3 – Population from 10,001 to 25,000. Level 4 – Population from 25,001 and higher.</p> <p><u>Water Treatment</u> Classified using a point system. Systems that score less than 14 points will only need Distribution Certification. Level 1 (Basic) – 15 to 30 points Level 2 (Intermediate) – 31 to 55 Level 3 (Advanced Intermed.) – 56-75 Level 4 (Advanced) – 76 and above</p>	<p>Certified at no more than one level higher than the level of the highest-level water system at which the applicant has at least 1 year of experience</p> <p>A score of 70% on exam. Requirements to take an exam: Education - HSD or equivalent For Level 1 - 1 year of qualifying experience in a Level 1 or higher utility; or 2 years or more of post-secondary education. For Level 2 - 2 years of experience, with 1 year as a Level 1 certified operator; or 2 years of post-secondary education and 1 year of experience, with 6 months as a Level 1 operator; or bachelor’s degree and 6 months of experience. For Level 3 - 3 years of experience, with 1 year as a Level 2 operator; or 2 years of post-secondary education, and 2 years of experience, with 1 year as a Level 2 operator; or a bachelor’s degree and 18 months experience, with 1 year as a Level 2 operator. For Level 4 - 4 years of experience, including 1 year as a Level 3 operator; or 2 years of post-secondary education and 3 years of experience, including 1 year as a certified Level 3 operator; or a bachelor’s degree, and 30 months of experience, including 1 year as a certified Level 3 operator.</p>	<p>Certificates are good for 3 years and renewable, with the renewed certificate valid for a period of 3 years.</p> <p>Renewal will require that each certified operator be credited with having obtained 35 PDHs in the 3-year period preceding the date on which the renewal application is due.</p> <p>A certified operator may renew a certificate by taking and passing an examination for the same level and classification, in lieu of meeting the PDH requirements specified above.</p>	<p>Not linked to ABC for exam.</p> <p>Operator NTKC offered for Operators certified at Level 1 to 4. Topics can include: Advanced Operation and Maintenance, Backflow Prevention and Cross Contamination, Treatment-Disinfection and Fluoridation, Surface Water Treatment Plant Processes and Operation Security, Safety and Administrative Procedures, Water Quality Parameters and Sampling, SCADA or similar, Drinking Water Regulations and Compliance.</p>

Program and Website: Navajo Nation Environmental Protection Agency; <http://navajonationepa.org/wastewater/>

Reciprocity: Allow for both water and wastewater operators.

Wastewater – Navajo Nation			
Classification of Operators, Facilities, and Systems	Qualifications to Achieve Each Grade or Level	Training and experience requirements needed to maintain/renew certification	Are there established Need-To-Know Criteria (NTKC)? What is the source?
<p>The Domestic Wastewater Program (DWWP) is under the Surface and Groundwater Protection Department of the Navajo Nation Environmental Protection Agency. The NNEPA is an independent entity of the Executive Branch of the Navajo Nation. DWWP is responsible for protecting water sources and environment of the Navajo Nation. The Navajo Nation Domestic Wastewater Regulation (NNDWWR) was adopted on April 29, 2010 and has become effective from the same date.</p> <p>There are approximately 36,700 septic tanks and drain fields and 263 Community Sewer Lagoons in Navajo Nation. Most of the community lagoons are being operated and maintained by Navajo Tribal Utility Authority (NTUA). Community individual homeowners are responsible for operation and maintenance of septic tanks and drain fields.</p>	<p>All PWS operators on the Navajo Nation are required to become state certified to the appropriate level as established by the Navajo PWSSP. The PWSSP will recognize state certificates until the Navajo Nation has fully developed and implemented its own operator certification program.</p> <ul style="list-style-type: none"> • The certificates are valid for the same period as with the certifying state. • Operators are required to submit a copy of the certificate along with an application form and fee to register with the Navajo PWSSP. • Operator certifications received from the States of Arizona, New Mexico, and Utah acceptable to the Navajo PWSSP. 	<p>An existing wastewater treatment system with operators who are not certified at the appropriate level or levels shall ensure that they obtain certification within the time specified as part of the terms and conditions of the operating permit. The permittee shall be given an opportunity to negotiate with the Director the timeframe within which the operators are to obtain certification.</p>	<p>No NTKC provided.</p> <p>Does provide information about Educational Studies in Water Technology. The program has found educational water operator training at colleges and universities. These classroom training or online sessions are available to operators who are willing to further educate themselves to enhance water resources, protecting public health, and coordinating job readiness.</p>

Program and Website: Navajo Nation Environmental Protection Agency - <http://navajonationepa.org/wastewater/>

APPENDIX II

General Guidance for Operators for Identifying and Confirming Certification Requirements by State

For New Operators

You might be one of the following:

- 1) With a high school degree (HSD) or general equivalency diploma (GED)
- 2) Veteran of military or other public safety sector
- 3) Established water sector professional with existing credentials (AS, BS, MS, PE) looking to add certified operator credentials
- 4) Transitioning from another field/sector into water and wastewater operations

Basics

- Minimum age and education – virtually every state requires you to be 18 years old and have either a HSD or GED.
- Nearly every state requires you to complete an application, pass the appropriate exam for the license/certification you are seeking, and pay a fee.
- Experience and education requirements – every state has specific experience and education requirements for each grade/classification of operator. Importantly, as a new operator, you may get credit for your education and experience coming in and you may be able to substitute this for the state's specific requirements. For example, you may have a 2-year Associate's degree that might translate into a certain number of years of experience and allow you to start higher than the lowest/entry level.

Preparing Your Application

In the application, expect to be asked to provide the following (at a minimum):

- Proof of age
- Proof of education
- Licenses to operate a vehicle
- Past working history
- Reliable references
- Veteran status
- Criminal background check

Getting Ready to Take and Pass Your Exam

- **Need-to-Know Criteria** – Most states have established exam/testing process, which includes “need-to-know” criteria for prospective operators. These criteria are specific to the grade/level of exam and are commonly found on each state's operator certification website. Many states have exam preparation courses conducted by one of the local water sector professional organizations/associations.

- **Temporary or Provisional Certification** -- Passing the exam is essential, but it may not guarantee that you are certified right away if you do not meet the experience requirements for your specific state. In most cases you will be designated as an Operator in Training (OIT) – or something like it – until you work long enough to become fully certified at the grade/level into which you tested.

Where to Go to Confirm What You Need in Each State

- 1) Find the website that governs and manages operator certification in your state and review the requirements. AWWA's *Operator Licensing Requirements Across the United States* report provides a summary of state regulations and links to state certification agencies.
- 2) Go to the AWWA website and locate the Operator Certification Resources section. Check out resources available that are available to help you become a certified operator.

For Currently Certified Operators

You are likely one of the following:

Moving Up -- Already licensed/certified in your state and wanting to go to the next level of your current license; or

Branching Out -- Already licensed/certified in one area (e.g., water treatment operations) and wanting to get certified in a different area (e.g., distribution or wastewater treatment) in your current state; or

Relocating -- Licensed/certified in a particular area in one state and wanting to become licensed/certified in a different state to which you are relocating.

Moving Up and/or Branching Out

- Find the website that governs and manages operator certification in your state and review the requirements. AWWA's *Operator Licensing Requirements Across the United States* report provides a summary of state regulations and links to state certification agencies
- Check the education and experience requirements for either the next level you are seeking to attain or for that new license in a different area/field.
- Identify the specific application, examination preparation, and continuing education requirements needed to sit for the examination for the next level or new area.
- Do the paperwork, pay the fees, put in the study time (including any courses you might need to get ready), take and pass the test, and move on!

Relocating

- Almost every state has reciprocity of some kind, but it is good to check and make sure your new state has it.
- Find the website that governs and manages operator certification in your state and review the requirements. AWWA's *Operator Licensing Requirements Across the United States* report provides a summary of state regulations and links to state certification agencies
- **If you have a job already in the new state** – Identify the education and experience requirements for the grade of operator that matches your role in the new state. Compare that to what you have

earned/achieved to date in your career. Identify any gaps and make plans to address those accordingly. Your new employer should be able and willing to help you with this – they did hire you after all!

- **If you do not have a job already in the new state** – Check the education and experience requirements in the new state and compare it to what you have achieved to assess where you are coming in. Some states may have it as a condition of reciprocity that you have a new job secured before you apply – so be sure to check that closely in each case.
- In either case, the next step is to identify the specific application, examination preparation, and possibly continuing education requirements that add up to making you qualified to sit for the examination for the next level or new area.
- Do the paperwork, pay the fees, put in the study time (including any courses you might need to get ready), take and pass the test, and move on!

When Something is Not Clear

- Do not hesitate to contact the respective state agency that manages and governs operator certification. The agency that has this role for each state is listed on each of the two-page charts, including the link to their respective websites. When in doubt, just call them.
- As a backup, please consult with the respective local section of AWWA or the member association of WEF in your current or intended new state.