

Final Significant Legislative Rule Analysis

Waterworks Operator Certification

WAC 246-292-060, Minimum education and
experience requirements to become a certified
operator

November 2017

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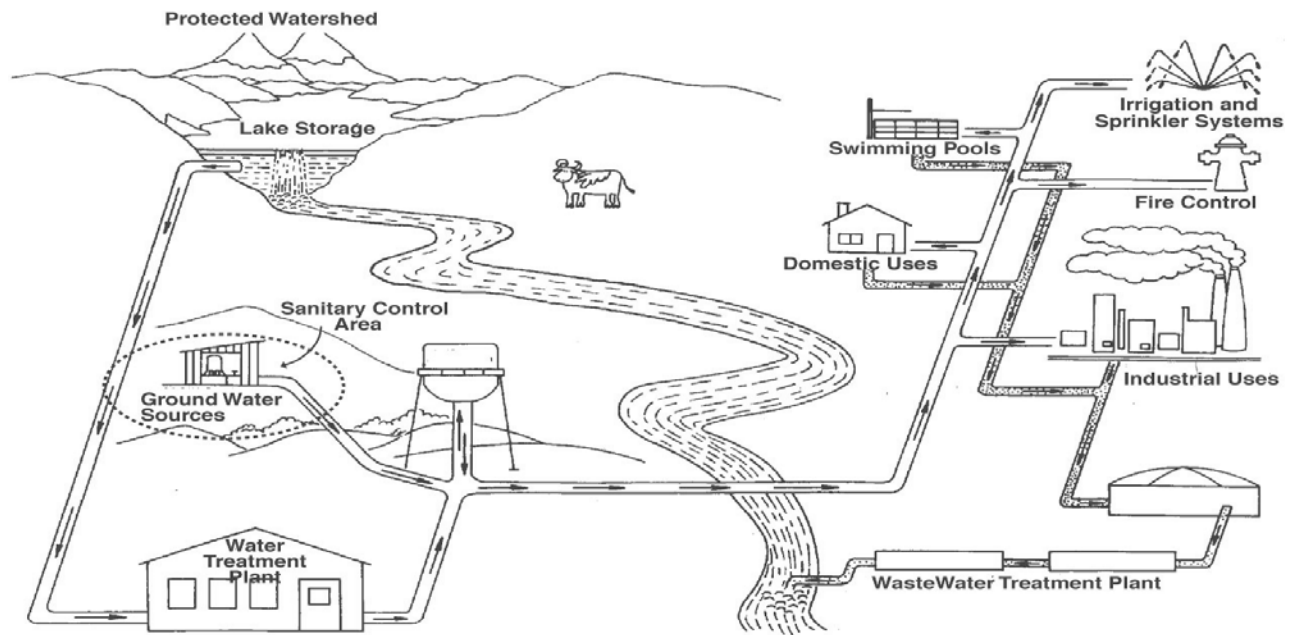
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Introduction

The mission of the Department of Health (department), Office of Drinking Water is to protect the health of the people of Washington by ensuring safe and reliable drinking water. More than 5.5 million Washington residents get their drinking water from a Group A public water system. Group A water systems typically serve drinking water to 15 or more connections. The department regulates Group A public water systems under state law and rule, and a formal agreement known as “primacy” with the U.S. Environmental Protection Agency (EPA) for carrying out the federal Safe Drinking Water Act (SDWA), which establishes minimum standards for drinking water. Under the SDWA, and as a condition of a primacy agreement, states must adopt minimum standards for the development, implementation and enforcement of an operator certification program. If primacy states do not carry out this responsibility, the SDWA requires EPA to withhold twenty percent of a state’s capitalization grant funds.

Group A public water systems provide water for human consumption, irrigation, industry, and many other uses. A typical water system has many components. These may include a source of supply, pumps, reservoirs, storage tanks, treatment plants, water mains, pipes, control valves, fire hydrants, flow meters, etc. Figure 1 – Typical Water System shows components of a typical water system from the water source to users.

Figure 1 – Typical Water System



Public health and safety

Historically, safe and reliable drinking water is recognized as a critical element of public health protection. Microbial pathogens are the largest contributor to waterborne diseases including, bacterial agents such as Salmonella, Shigella, *E. coli* 0157:H7, and protozoal agents such as *Giardia lamblia* and *Cryptosporidium*. Competent operation of Group A public water systems is necessary for the protection of the consumers' health, and is of vital interest to the public and the economy.

Certified waterworks operators (certified operators) provide a critical link to protecting the health of those who use and consume the drinking water by performing daily operations of public water system water treatment plants and distribution systems. Daily operation activities include:

- Water quality monitoring;
- Proper operation of treatment processes and distribution systems;
- Maintenance of facilities;
- Development and implementation of cross-connection control programs;
- Protecting the public water system from backflow incidents; and
- Taking immediate actions to resolve problems.

To become certified, operators must meet federal and state minimum education and experience requirements, and take and pass an examination. Certified operators must meet professional growth requirements (continuing education) to maintain and expand a certified operator's expertise by taking training that is relevant to the daily operations of a water system, or advancing by examination in a different operator classification.

Section 1: Describe the proposed rule, including a brief history of the issue, and explain why the proposed rule is needed.

The department, Group A public water system purveyors, and certified operators are experiencing a dramatic decline in the number of certified operators due to retirements in the field. The current rule has an Operator-In-Training (OIT)¹ designation for Level 1, the adopted rule adds an OIT designation to Levels 2 through 4 the Water Distribution Manager (WDM)² and Water Treatment Plant Operator (WTPO)³ designations. An OIT is an individual with less

¹ "OIT (operator in training)" means an individual with less than the required amount of operating experience to perform routine on-site duties in a water treatment plant or distribution system.

² "WDM (Water Distribution Manager)" means an individual meeting the requirements of this chapter and certified under chapter 70.119 RCW to perform or manage routine on-site duties in a distribution system of a public water system that serves two hundred fifty people. WDM duties affect the public water system performance, water quality, water quantity, or public health protection.

³ "WTPO (Water Treatment Plant Operator)" means an individual meeting the requirements of this chapter and certified under chapter 70.119 RCW to perform or manage on-site duties in a water treatment plant. WTPO duties affect plant performance, public water system performance, water quality, water quantity, or public health protection.

than the required amount of “operating experience⁴” while still meeting the minimum education and “water-related⁵” experience requirements. An OIT typically works under the supervision of a higher level WDM or WTPO, a shift operator, or the designated operator in “responsible charge⁶” until the certified operator gains the required amount of operating experience to qualify for the full certification designation. A shift operator or operator in “responsible charge” is designated to make process control/system integrity decisions about water quality or quantity that affect public health and safety. An OIT performs routine on-site duties under the supervision of a shift operator or operator in “responsible charge”. This supervisory structure meets the federal guidelines for the certification of operators (F.R. 99-2692, Vol. 64 No. 24, February 5, 1999.)

The adopted rule addresses concerns expressed by Group A public water system purveyors and from certified operators who lack the required “operating experience” which is more stringent than the broader “water-related” experience to be able to move up to the next certified operator level. By adding an OIT designation for each level of WDM and WTPO, this change will increase public health protection by expanding the number of qualified staff available for hire.

The adopted rule also changes the experience requirements for the Cross-connection Control Specialist (CCS) certification from the more stringent “operating experience” to the broader “water-related” experience. This change adds experience in industrial water, wastewater treatment, or engineering consultant or operations consultant to count toward certification experience requirements. This change will result in increased public health protection by expanding the number of qualified staff available for hire. Expanding the types of required experience (water-related) has the same expectation of public health protection as the experience in drinking water supplies since cross-connection control is universal in protecting high water quality supplies from lower quality water uses.

The adopted change to WAC 246-292-060, Minimum education and experience requirements to become a certified operator, sets the requirements for each of the four certification levels of WTPO and WDM (see Appendix A – Minimum education and experience requirements). The adopted rule adds an OIT designation for each level. A person may use the OIT designation when they do not meet the operating experience requirement for a certification level. The OIT must meet the education and “water-related” experience requirements, and successfully pass the exam for the specified certification level. The department regards such an individual as having demonstrated the knowledge and proficiency needed to perform the on-site duties in a water treatment plant or distribution system for the specified certification level. Such individuals are eligible to fill vacancies for the certification level corresponding to the passed exam, but are not qualified to fill mandatory certified operator positions identified in WAC 246-292-020. The adopted rule allows a

⁴ “Operating experience” means the routine performance or management of duties in a water treatment plant or distribution system, and that affect treatment plant performance, distribution performance, water quality and quantity, or public health protection.

⁵ “Water-related experience” means experience operating a treatment plant or distribution system, working in water quality, water resources, or water infrastructure, working in industrial water or wastewater treatment, or as a consultant.

⁶ “Responsible charge” means the authority a purveyor grants to a certified operator to make decisions that directly impact water quality, water quantity, or public health protection of a public water system, and decisions regarding daily operational activities, process control, or system integrity of a water treatment plant or distribution system.

person to become an OIT at any certification level which will give waterworks professionals the opportunity to develop skills and make it easier to move up to higher certification levels rather than only the first level after meeting the specified education and experience requirements and passing the applicable exam.

The adopted rule will allow Group A public water system purveyors flexibility in filling vacancies, give waterworks professionals the opportunity to develop skills, and make it easier for WTPOs and WDMs to move up to higher certification levels.

Rule making is necessary to revise certification requirements for certified operators under RCW 70.119.050, Rules and regulations – Secretary to adopt. The statute requires the department to adopt rules to “include provisions establishing minimum qualifications and procedures for the certification of operators.” Revisions to minimum qualifications for certified operators must be adopted in rule.

Section 2: Is a Significant Analysis required for this rule?

RCW 34.05.328(5) requires the department to complete an analysis of a proposed rule when it meets the definition of a “significant legislative rule.” The department determined that the adopted rule meets the definition of significant legislative rule because the rule makes significant amendments to a regulatory program. Therefore, the department has completed a significant analysis meeting the requirements of RCW 34.05.328(5).

Section 3: Clearly state in detail the general goals and specific objectives of the statute that the rule implements.

The general goals and specific objectives of chapter 70.119 RCW are stated in RCW 70.119.010 legislative declaration:

“The legislature declares that competent operation of a public water system is necessary for the protection of the consumers’ health, and therefore it is of vital interest to the public. In order to protect the public health and conserve and protect the water resources of the state, it is necessary to provide for the classifying of all public water systems; to require the examination and certification of the persons responsible for the technical operation of such systems; and to provide for the promulgation of rules and regulations to carry out this chapter.”

Chapter 70.119 RCW, requires community and nontransient noncommunity Group A public water systems to have a certified operator. The statute conforms to Section 1419 of the SDWA amendments of 1996. EPA adopted federal requirements in 1999 by setting minimum standards for the development, implementation, and enforcement of state operator certification programs.

In order to conform to state and federal requirements, the department adopted the Waterworks Operator Certification rule into chapter 246-292 WAC in 2001. The department submitted a primacy application to EPA and received approval. Under the department's primacy agreement, the department submits an annual report to EPA to verify that the department continues to meet the federal operator certification requirements. Whenever the department revises the rule, the department must resubmit a primacy application to EPA for review and approval. The department received EPA's approval on September 20, 2017.

RCW 70.119.050 directs the secretary of the department to adopt and enforce rules to administer an operator certification program. The law directs the department to establish rules for:

- Certifying operators;
- Professional growth requirements (continuing education); and
- Classification of Group A public water systems.

Section 4: Explain how the department determined that the rule is needed to achieve these general goals and specific objectives. Analyze alternatives to rulemaking and the consequences of not adopting the rule.

The adopted rule revisions meet the general goals and specific objectives identified in RCW 70.119.050 by adopting minimum qualifications and procedures for the certification of operators into rule. The adopted rule will ensure OIT certified operators are competent and that they are able to operate water systems in a safe and effective manner. In order to allow certified operators to become an OIT at each certification level, the department adopted this change into rule as well as changing the CCS "operating experience" requirement to "water-related experience" requirement. Revisions to minimum qualifications for certified operators must be adopted in rule.

Section 5: Explain how the department determined that the probable benefits of the rule are greater than the probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented.

The department determined the revisions include a significant legislative rule section that is subject to the requirements of RCW 34.05.328(5). This analysis evaluates one amended rule section determined to be "significant." The following analysis evaluates the probable benefits and costs deemed significant.

WAC 246-292-060, Minimum education and experience requirements to become a certified operator

The rule section includes two significant requirements.

1. The adopted change moves the OIT requirement from the current rule under Tables 5 and 6 and includes the requirements in subsection 3. The rule change also creates a new OIT designation to WAC 246-292-060 subsection (3) for a WTPO levels 2 through 4 and WDM levels 2 through 4 as follows by establishing minimum requirements. The requirements in the current rule include varying minimum education and “water-related” experience or “operating experience” requirements for each certification level. The adopted rule excludes the “operating experience” requirements, which aligns with the OIT definition (see footnote 1) in the current rule. See Appendix A – Minimum education and experience requirements for more details.

This change allows Group A public water systems more flexibility in filling vacancies, gives certified operators the opportunity to develop skills and makes it easier for WTPOs and WDMs to move up to higher certification levels.

Costs: Under the current rule, an applicant for an OIT level 1 must submit an \$87 application fee to the department. The fee covers the cost for the department to evaluate and approve the OIT application. The applicant must pay a fee of \$98 to the testing administrator to take and pass the exam. If the certified operator wants to advance to the full certification level after achieving the experience requirements for full certification, the certified operator must apply and submit the \$87 fee so the department can evaluate the experience gained and approve the upgrade to full certification status. The applicant would not have to take the exam because the certified operator would have already taken and passed the exam under the OIT certification.

Under the adopted rule, an OIT applicant for WDM and WTPO levels 2 through 4 must also submit an \$87 application fee and an exam fee of \$98 to take and pass the exam. If the certified operator wants to advance to the full certification level after achieving the experience requirements for full certification, the certified operator must apply and submit the \$87 fee so the department can evaluate the experience and approve the upgrade to full certification status. The applicant would not have to take the exam because the certified operator would have already taken and passed the exam under the OIT certification.

The adopted rule imposes the same costs to an applicant for OIT levels 2 through 4 as is currently required for level 1.

Benefits: The benefit of the adopted rule is that it changes the OIT designation requirements to expand the number of certified operators that are available for hire. Increasing the number of certified operators will increase public health protection by ensuring Group A public water systems are run efficiently and effectively. The expected increase in the number of certified operators will address the dramatic increase in the number of existing certified operators that are retiring. This rule change allows Group A public water system purveyors flexibility in filling vacancies due to the expected increase in the number of certified operators, gives certified

operators the opportunity to develop skills and makes it easier for WTPOs and WDMs to move up to higher certification levels.

2. The adopted change to WAC 246-292-060 (4) minimum education and operating experience requirements for a CCS are:
 - (a) Twelve years of education (see Table 7 in Appendix A – Minimum education and experience requirements for equivalent education requirements); and
 - (b) At least six months of “water-related” experience.

The adopted rule changes the experience requirements for CCS certification from the more stringent “operating experience” to the broader “water-related” experience as defined under WAC 246-292-010 (52) which will allow experience in industrial water, wastewater treatment, or engineering consultant or operations consultant to count toward the six-month requirement. The expanded types of water-related experience have the same expectation of public health protection as the experience in drinking water supplies since cross-connection control is universal in protecting high water quality supplies from lower quality water uses.

Costs: There is no cost impact for CCS applicants to comply with this adopted rule. The rule expands the type of experience, as identified above, which will satisfy the required six-months of experience. All applicants for CCS certification must apply for and submit the appropriate fee to become certified whether or not the rule change is adopted.

Benefits: The benefit of this change addresses concerns from Group A public water system purveyors and CCSs who anticipate a dramatic increase in the number of certified CCSs needed in the near future by increasing the number of certified CCSs. The department is increasing its expectations on public water systems to have a comprehensive and active cross-connection control program meeting the requirements in WAC 246-290-490. In order to meet this expectation, water systems must employ more CCSs to perform the work associated with the program. Expanding the eligible types of experience to count toward the required six-months of experience creates a larger pool of CCSs to fill the gap. The expanded types of “water-related” experience have the same expectation of public health protection as the experience in drinking water supplies since cross-connection control is universal in protecting high water quality supplies from lower quality water uses.

Adopted Rule Cost-Benefit Conclusion

There are two main benefits of the adopted rule. First, the rule creates a mechanism for certified operators to obtain an OIT designation that allows them to gain experience operating a water system under the supervision of a certified operator in “responsible charge” or a higher-level certified operator. The rule benefits public water systems by increasing the number of available certified operators to protect the public’s health by safely and effectively performing the daily operational activities. Secondly, the benefit of the rule is that it creates more flexibility in how applicants for a CCS can obtain the required experience to qualify to take the exam and become certified which will result in more certified CCSs to fill the gap.

Although certified operators that elect to obtain an OIT designation must pay the \$87 application fee, the testing fee of \$98, the benefits of the rule identified above outweigh these costs. Based on this analysis, the department concludes that the total probable benefits of the adopted rule exceed the total probable costs.

Section 6: Identify alternative versions of the rule that were considered, and explain how the department determined that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated previously.

The department considered alternate versions of the rule. In considering each requirement, the department considered varying levels of minimum required experience and ultimately chose the version that is the most protective of public health and the least costly for certified operators and public water systems. The adopted rule also meets the federal and state mandates of the underlying statutes.

The department considered not making this proposed change and leaving the rule as was currently adopted. However, this option would not address the challenges to public water systems to have a large enough pool of candidates to fill vacancies to adequately operate and maintain water distribution systems and treatment facilities. This would also impact a certified operator's ability to more easily move up to higher certification levels using the OIT classification while still meeting the minimum requirements as set forth in the adopted rule.

Therefore, the department determines the rule changes are the least burdensome alternative for those required to comply that achieves the goals and specific objections of the underlying statutes.

Section 7: Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.

The rule does not require those to whom it applies to take an action that violates requirements of federal or state law.

Section 8: Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law.

The adopted rule will not impose more stringent performance requirements on private entities than on public entities. The changes in this rule apply equally to the classification and operation of all public water systems, whether they are publicly or privately owned.

Section 9: Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter, and if so, determine that the difference justified by an explicit state statute or by substantial evidence that the difference is necessary.

The adopted rule does not differ from any applicable federal regulation or statute. The rule changes were developed using the SDWA, federal operator certification requirements, and state statute (chapter 70.119 RCW). EPA staff determined that the adopted rule changes meet the anti-backsliding provisions of the federal standards under the “Final guidelines for the Certification and Recertification of the Operators of Community and Nontransient Noncommunity Public Water Systems”, F.R. Vol. 64 No. 24, February 5, 1999.

Section 10: Demonstrate that the rule has been coordinated, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.

The department has coordinated with EPA and the department’s Certified Waterworks Advisory Committee, as well as done extensive work with stakeholder groups, during the development of this rule. The adopted rule changes have been coordinated to the maximum extent practical with other federal and state laws applicable to the same subject matter:

- Chapter 70.119 RCW, Public water supply systems – Operators;
- Safe Drinking Water Act Amendments of 1996;
- EPA final guidelines for the certification and recertification of the operators of public water systems (64 F.R. 5916 February 5, 1999);
- EPA final additions to the final guidelines for the certification and recertification of the operator of public water systems (66 F.R. 19939 April 18, 2001);
- Chapter 246-290 WAC, Group A public water supplies; and
- Association of Boards of Certification (standards for testing, certification, continuing education, and reciprocity).

The department held a thirty-day comment period on the draft rule to solicit feedback from Group A public water systems, certified operators, and interested parties. Throughout the rule making process, the department has given several presentations to discuss the changes and get feedback from stakeholders at conferences and meetings for the following groups between the summer of 2016 and spring 2017.

Stakeholder Groups
American Water Works Association-Pacific Northwest Section Trustees & Cross-Connection Control Committee
Association of Boards of Certification
Association of Washington Cities/Counties
Certified waterworks operators and Cross-connection control specialists
Evergreen Rural Water of Washington
Group A public water systems
Rural Community Assistance Corporation
Spokane Regional Cross-Connection Control Chapter
U.S. EPA – Region 10 (Alaska, Idaho, Oregon, and Washington)
Washington Association of Sewer and Water Districts
Washington Certification Services
Washington Environmental Training Center
Washington Operator Workshop
Washington Public Utility District Association
Washington State Environmental Health Association – Annual Education Conference
Washington Water Utility Council
Water and Wastewater Operators of Washington
Waterworks Operator Advisory Committee
Western Washington Cross-Connection Prevention Professionals (The Group)

Appendix A – Minimum education and experience requirements.

WAC 246-292-060 Minimum education and experience requirements to become a certified operator. (1) Minimum education and operating experience requirements for a water treatment plant operator are in Table 5.

**Table 5
WTPO Minimum Education and Experience Requirements**

Certification Level	Minimum Education Requirement (see Table 7 for equivalents)	Minimum Experience Requirement
((WTPO – OIT	12 years	<p>One of the following:</p> <ul style="list-style-type: none"> • 3 months operating experience in a water treatment plant or distribution system; • 3 months water-related experience; or • 30 hours of relevant water system training (3 CEUs or 3 college credits).))
WTPO 1	12 years	12 months <u>operating</u> experience in a water treatment plant.
WTPO 2	12 years	<ul style="list-style-type: none"> • 18 months operating experience in a water treatment plant; and • 18 months additional water-related experience. • Relevant excess education may substitute for additional <u>water-related</u> experience requirement.
WTPO 3	14 years	<ul style="list-style-type: none"> • 24 months operating experience in a Class 2 or higher rated water treatment plant; and • 24 months additional water-related experience. • Relevant excess education may substitute for additional water-related experience requirement.
WTPO 4	16 years	<ul style="list-style-type: none"> • 24 months operating experience in a Class 3 or higher rated water treatment plant; and • 24 months additional water-related experience. • Relevant excess education may substitute for additional water-related experience requirement.

(2) Minimum education and operating experience requirements for WDS and WDM certification levels are in Table 6.

Table 6
WDS and WDM Minimum Education and Experience Requirements

Certification Level	Minimum Education Requirement (see Table 7 for equivalents)	Minimum Experience Requirement
WDS	12 years	6 months operating experience in a water treatment plant or distribution system.
(WDM – OIT	12 years	One of the following: <ul style="list-style-type: none"> • 3 months operating experience in a water treatment plant or distribution system; • 3 months water-related experience; or • 30 hours of relevant water system training (3 CEUs or 3 college credits).)
WDM 1	12 years	12 months operating experience in a water treatment plant or distribution system.
WDM 2	12 years	<ul style="list-style-type: none"> • 12 months operating experience in a water treatment plant or distribution system; and • 24 months additional water-related experience. • Relevant excess education may substitute for additional water-related experience requirement.
WDM 3	14 years	<ul style="list-style-type: none"> • 12 months operating experience in a water treatment plant or distribution system; and • 36 months additional water-related experience. • Relevant excess education may substitute for additional water-related experience requirement.
WDM 4	16 years	<ul style="list-style-type: none"> • 12 months operating experience in a water treatment plant or distribution system; and • 36 months additional water-related experience. • Relevant excess education may substitute for additional water-related experience requirement.

(3) OIT requirements. Applicants for a WTPO or WDM OIT certification must meet the following requirements:

(a) Level 1 must meet the minimum education identified in Table 5 or 6 and either:

(i) Three months operating experience in a distribution system or in a water treatment plant;

(ii) Three months water-related experience; or

(iii) Three relevant college credits or thirty hours (three CEUs) of relevant training.

(b) Levels 2 through 4 must meet the minimum education and water-related experience requirements identified in Table 5 or 6 for the applicable certification level, excluding the operating experience requirements.

(4) The minimum education and operating experience requirements for a CCS are:

(a) Twelve years of education (refer to Table 7 for equivalent education requirements);
and

(b) At least six months (~~operating~~) water-related experience (~~(in a public water system's water treatment plant, distribution system, or water-related experience implementing a cross-connection control program for a consumer's water system not subject to WAC 246-290-490)~~).

~~((4))~~ (5) A BAT shall have at least twelve years of education (refer to Table 7 for equivalent education requirements).

Table 7

Minimum Education Requirements and Equivalent Education and Substitutions

Minimum Education Requirement	Equivalent Education and Substitutions
12 years of education	<ul style="list-style-type: none"> • High school diploma or GED; • One year of water-related experience may substitute for each year of education through twelfth grade.
14 years of education	<ul style="list-style-type: none"> • High school diploma or GED, and one of the following: <ul style="list-style-type: none"> • A two-year college degree; • 60 college semester credits; • 90 college quarter credits; or • 90 CEUs from relevant water system training. • One year of operating experience or water-related experience may substitute for each year of education through twelfth grade.

Minimum Education Requirement	Equivalent Education and Substitutions
	<ul style="list-style-type: none"> • Two years of operating experience or water-related experience may substitute for each year of college education.
16 years of education	<ul style="list-style-type: none"> • High school diploma or GED, and one of the following: <ul style="list-style-type: none"> • A four-year college degree; • 120 college semester credits; • 180 college quarter credits; or • 180 CEUs from relevant water system training. • One year of operating experience or water-related experience may substitute for each year of education through twelfth grade. • Two years of operating experience or water-related experience may substitute for each year of college education.

~~((5))~~ (6) Water-related experience used to substitute for the minimum education requirements must exceed the minimum experience requirements for certification in Tables 5 and 6 before the experience is used as an equivalent education substitution in Table 7.

~~((6))~~ (7) The department may approve an applicant's relevant excess education or water-related experience that meets the requirements in Tables 5, 6, and 7.