

2023
NORTH CAROLINA CERTIFICATION PROGRAM
ANNUAL REPORT

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North Carolina Department of Environmental Quality

Division of Water Resources, Public Water Supply Section

Operator Certification Program

North Carolina Water Treatment Facility Operator Certification Program

This report outlines the U.S. Environmental Protection Agency's nine baseline standards for state operator certification programs under the Safe Drinking Water Act and describes in detail the status of the North Carolina Operator Certification Program (Program) as related to those standards.

Public Health Objective

North Carolina General Statute (NCGS) 90A-20 established the authority for the state to implement the Program and ensures that public health objectives are emphasized.

Article 2. Certification of Water Treatment Facility Operators

§ 90A-20. Purpose

It is the purpose of this Article to protect the public health and to conserve and protect the water resources of the State; to protect the public investment in water treatment facilities; to provide for the classifying of public water treatment facilities; to require the examination of water treatment facility operators and the certification of their competency to supervise the operation of water treatment facilities; and to establish the procedures for such classification and certification. Further, it is the purpose of this Article to provide for the certification of personnel operating the distribution portion of a water treatment facility.

In addition to the public health statement above, it should be noted that North Carolina's Program operates under the oversight of the Public Water Supply (PWS) Section within the North Carolina Department of Environmental Quality's, Division of Water Resources which is the primacy agency that administers the Safe Drinking Water Act in North Carolina. The PWS Section has a stated mission and vision that include public health objectives:

Mission: To promote public health by ensuring that safe, potable water is available in adequate quantities to the residents and visitors of North Carolina served by public water systems by assuring that such systems are properly located, constructed, operated, and maintained.

Vision: North Carolinians are consistently served a safe, reliable supply of drinking water by compliant water systems.

Anti-backsliding

The Program has remained the same during this review period and there has been no backsliding with regard to implementation or policy. In fact, the Program continues to pursue a variety of projects designed to better support the state's community of certified operators (e.g., improved data management, increased examination options and additional continuing education opportunities, etc.).

BASELINE STANDARDS

1 - Authorization

NCGS 90A-20 through 90A-34 and North Carolina Administrative Code (NCAC) Title 15A Subchapter 18D (15A NCAC 18D), *Rules Governing Water Treatment Facility Operators*, govern the training, certification, and performance of water treatment facility operators, as well as the classification of facilities that treat and provide water for public consumption. The North Carolina Water Treatment Facility Operators Certification Board (Board) has rule-making authority in North Carolina.

2 - Classification of Systems, Facilities, and Operators

All public water systems in North Carolina shall have a certified operator in responsible charge (ORC) for each water treatment facility that: alters the physical, chemical or microbiological characteristics of the water; has approved plans for such alterations; or has equipment installed for such alterations (15A NCAC 18D .0206(a)). When surface water systems are treating water, there must be a certified operator holding at least a Grade C Surface certification assigned to be on the premises (15A NCAC 18D .0206(b)). There must also be an ORC for the distribution portion of community (CWS) and non-transient non-community (NTNCWS) public water systems. This operator must possess a valid certificate issued by the Board equivalent to or exceeding the distribution classification of the facility for which he or she is designated (15A NCAC 18D .0206(c)). There must also be an ORC for the cross-connection control facilities of the distribution system. This operator must possess a valid Grade Cross-Connection Control certificate issued by the Board (15A NCAC 18D .0206(d)).

The state has delegated authority to the Board to make decisions regarding classification of facilities and the associated grades of operator required to operate each facility. The determination considers a variety of factors that include size, complexity of treatment, population, source type, etc. Transient non-community (TNCWS) water systems in North Carolina are classified if the facility provides disinfection other than ultraviolet treatment (15A NCAC 18D .0206(f)).

Table 1. Breakdown of water systems within each category of classification is per Safe Drinking Water Information System (SDWIS) data (*as of April 3, 2024*). The “# of Certified Operators” is the number of operators holding an active certification within each category of classification during the 2023 reporting period.

CLASSIFICATION	# of CWS	# of NTNCWS	# of TNCWS	# of CERTIFIED OPERATORS
WELL	1,487	303	304	2,022
SURFACE WATER	128	5		1,839
DISTRIBUTION SYSTEM	1,986	318		3,437

CROSS-CONNECTION	351	6		952
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The state’s ORC information is received and maintained by the Program. Operators are required to inform the Board whenever ORC designations are changed (15A NCAC 18D .0701(e)). In addition, during the annual certification renewal period, certified operators must submit a form that lists facilities for which they serve as ORC. The Program updates its database for ORC designations based upon information received during the renewal period.

For additional verification, the PWS Section’s regional office staff, during sanitary surveys and other site visits, evaluate treatment and distribution facilities to verify the classification of each and that water systems have properly certified ORCs. Each ORC must hold a certification that is equal to or greater than the classification of the facility under their supervision (15A NCAC 18D .0206). Following completion of a sanitary survey, regional office staff submit ORC changes or potential violations of 15A NCAC 18D .0206 to Program staff.

There were 5,700 certified operators holding 8,250 active certifications in North Carolina during the reporting period. The number of certified operators has remained stable over the last five years and appears sufficient to meet demand in the state.

The Board has authority to issue temporary certifications in cases where: operators are in the process of upgrading their certification, and operators with the proper certification are not readily available within the local vicinity. In all such cases, the operator requesting a temporary certification must demonstrate to the Board that they are competent and able to fulfill duties in accordance with 15A NCAC 18D and the *Rules Governing Public Water Systems* (15A NCAC 18C). Requests for temporary certifications are rare. During this reporting period, the Board did not issue any temporary certifications.

3 - Operator Qualifications

Individuals applying for state certification must meet specific education and experience requirements. All applicants for certification are required to possess either a high school diploma or general education development (GED) equivalent. Applicants must successfully complete a required training school approved by the Board (15A NCAC 18D .0201). Attendance rosters from schools are forwarded to Program staff, and the Program database is continually updated to include this information. The state does not have a “grandparenting” option that allows exceptions to the requirements for certification.

Applicants must pass a comprehensive examination that demonstrates they have the necessary knowledge and ability deemed appropriate for their desired grade of certification. Examinations are offered in paper format on a quarterly basis, with examination locations geographically distributed across the state (e.g., Hickory, Williamston, and Raleigh). Should any examinee fail the same type and grade of examination three times, they are required to re-take the appropriate school before repeating the examination (15A NCAC 18D .0202).

Number of examinations administered by certification type, with pass rates:
 Surface – 428 examinees, 62% pass rate

Well –	339 examinees, 45% pass rate
Distribution –	912 examinees, 51% pass rate
Cross-Connection –	123 examinees, 60% pass rate
Total examinees –	1,802, 53% pass rate

In addition to passing the examination, applicants must demonstrate “acceptable experience” as defined by 15A NCAC 18D .0105. The required amount of acceptable experience varies in accordance with the requested classification grade and is specified in 15A NCAC 18D .0201. North Carolina has an option to allow applicants to become certified apprentices in Level B, C, D, or Cross Connection Control without experience, if they complete the required school and successfully pass an appropriate examination. The certified apprentice may be upgraded to full certification once the required acceptable experience has been obtained and verified by the applicant’s supervisor.

To maintain certification, operators are required to complete six acceptable professional growth hours annually. The Board has developed a pre-approval policy, and the Program’s database tracks professional growth hours and pre-approved courses. The Program’s website is continually updated to display pre-approved courses. This information enables operators to select courses that are acceptable and appropriate for their specific professional growth needs. To date, approximately 3,864 courses have been pre-approved. In addition, more than 400 training providers and six training sponsors have been approved.

4 - Enforcement

During this reporting period, the Program expired the certifications of 493 operators. 295 certifications were expired for nonpayment of annual renewal fees and lack of required professional growth hours and 198 were expired for nonpayment of annual renewal fees.

The Program’s database confirms that drinking water systems remain in compliance with state regulations regarding required operators and that operators continue to maintain their certification requirements. If there is evidence that a facility does not have a properly certified ORC, Program staff send a letter to the water system owner requesting that they verify ORC designation. The system owner is required to respond within 15 days. If the system owner does not respond or designate a properly certified ORC within 15 days, a notice of violation (NOV) is sent to the system owner. The Section Chief of the PWS Section has delegated authority to assess administrative penalties when non-compliance exceeds 90 days. Once an administrative penalty is assessed, the PWS Section pursues enforcement actions with assistance from the North Carolina Department of Justice. There were 0 NOVs issued, and 0 administrative penalties assessed during the 2023 reporting period due to delays associated with evaluation and modification of violation letters.

There is an established data link between the PWS Section’s SDWIS database and the Program’s database. This link ensures that the most current ORC information is readily available to PWS Section regional office staff for verification or updating during sanitary surveys or other site visits.

The Board has authority to take disciplinary action and revoke certifications in cases where negligence, operator incompetence, or criminal activity has occurred. The Board did not consider any disciplinary actions during this reporting period. Revocation of certification is extremely rare in

North Carolina.

5 - Certification Renewal

During the 2023 annual renewal cycle, the following number of operators renewed their certifications for calendar year 2024:

Surface –	1,839 (plus 46 Apprentice certifications)
Well –	2,022 (plus 28 Apprentice certifications)
Distribution –	3,437 (plus 15 Apprentice certifications)
Cross Connection –	952 (plus 1 Apprentice certification)

For certification renewal, operators are required to obtain six professional growth hours each year and pay an annual renewal fee of \$30 per certification. To meet the demand for approved courses and training, the Program works closely with training organizations such as North Carolina One Water (the North Carolina section of the American Water Works Association), the North Carolina Waterworks Operators Association, the North Carolina Rural Water Association, and private training providers. “Grandparenting” is not allowed and therefore there are no additional trainings assigned to any subset of operators.

Professional growth courses accepted for certification renewal require Board approval. A course pre-approval and tracking policy was adopted by the Board in 2006. This policy allows pre-approval of various course types, including in the classroom, online, and delivery via a webinar. The policy also provides a mechanism for training organizations to become an “approved sponsor.” Any organization wishing to receive pre-approval for courses or to obtain sponsorship status must submit a formal application and sign an agreement to comply with Board education requirements.

The Board has established a review committee, which evaluates and approves potential professional growth courses. The committee has the authority to approve webinars for professional growth hours, online training, as well as in-class sessions. In response to recommendations from the state’s training providers, the review committee now considers new course requests “on demand.” The previous process included a bulk, monthly processing routine of applications, which resulted in delays in promoting and refining new educational opportunities.

During the reporting period, a total of 204 new courses were approved for professional growth credit. The new courses include a combination of in-class modules and virtual formats.

6 - Resources Needed to Implement the Program

The Program staff consists of an Environmental Program Supervisor, four Administrative Specialists, two Education & Training Specialists, and an Environmental Program Consultant. Staff perform a variety of functions that include administering statewide examinations, approving and auditing professional growth opportunities, managing database and state records, providing training and outreach, processing fee receipts, participating in the enforcement of *Rules Governing Water Treatment Facility Operators*, and coordinating the annual certification renewal

process. Additional resources are provided by the PWS Section and the North Carolina Department of Information Technology to support programming needs and database development.

The Program is self-supported through a fee-based structure that is codified within NCGS 90A-27 and 15A NCAC 18D .0304. Annual operator renewal fees and examination application fees are the primary revenue sources. The Program does not receive money from the state's general fund, nor does it regularly receive federally appropriated funds. Fee receipts are used for a variety of purposes, including salary support, information technology services/software development, capital equipment, and expenditures associated with trainings and examinations administered throughout the state. The Program currently (and historically) has received adequate resources to successfully implement the Program and meet Baseline Standard 6.

The following summary is offered with regard to Program resources: In North Carolina FY 2022 - 2023, Program receipts deposited were \$339,685 while total expenditures came out to \$275,009.14. The percentage breakdown of expenditures for Program operations are approximately as follows: Salaries and Fringes: 78.25%, Purchased Services/Travel: 20.22%, Supplies: 1.18%, Equipment: 0.06%, and Other Expenses: 0.29%. Unspent funds remaining at the end of the fiscal year are considered as non-recurring and may be transferred to the General Assembly.

7 - Recertification

Operators with certifications expired for more than two years are required to petition the Board for approval to be recertified (15A NCAC 18D .0309(c)). The Board considers each petition individually and renders instructions for recertification, which typically include paying two years of renewal and late fees as well as successfully retaking the examination for each certificate held. If an individual certification has been expired for more than five years, in addition to the renewal fees, late fees, and examination, the operator is required to attend the appropriate training school prior to sitting for the examination.

8 - Stakeholder Involvement

The Board is composed of eight members appointed by the Governor of North Carolina in accordance with NCGS 90A-21. As required, Board members represent a variety of stakeholders, including:

- (1) One member who is currently employed as a water treatment facility operator;
- (2) One member who is manager of a North Carolina municipality using a surface water supply;
- (3) One member who is manager of a North Carolina municipality using a treated groundwater supply;
- (4) One member who is employed as a director of utilities, water superintendent, or equivalent position with a North Carolina municipality;
- (5) One member employed by a private water utility or private industry and who is responsible for the operation or supervision of a water supply and treatment facility;
- (6) One member who is a faculty member of a four-year college or university whose major field is related to water supply;
- (7) One member employed by the Department of Environmental Quality and working in the field of water supply;

(8) One member not certified or regulated under this Article, who shall represent the interest of the public at large.

The Board meets quarterly in March, June, September, and December. The meetings are open to the public and public participation is encouraged. Minutes taken at each Board meeting are public record. They are posted on the Program's website.

Stakeholders traditionally have provided guidance, recommendations, input into rule revisions and served as proctors for certification exams, when needed. Stakeholders have also endorsed anticipated programmatic improvements, including an electronic payment option, a combined Program database and examinations "on demand" to supplement the quarterly schedule. Staff and stakeholders continued to communicate regularly to discuss training options and other industry issues.

While there is no formal advisory committee, input (from operators, water systems, training providers, etc.) is encouraged by staff who regularly interact with industry stakeholders. Additionally, the Board encourages stakeholder feedback and retains a standard agenda item during its scheduled meetings that provides opportunity for anyone from the public to provide input. These mechanisms, in addition to public comment on rule revisions, have historically been sufficient to solicit and obtain feedback from stakeholders.

9 - Program Review

The Program is subject to an annual internal review. The Vice Chair of the Board conducts the internal review with results presented to the full Board. Board member Jon Pons conducted the internal review in April of 2024. Each activity of the Program was reviewed, and the results will be presented to the Board. A copy of the internal review is attached.

An external review is completed every five years by an entity outside the Program's primary agency. The most current external review (March 2023) was conducted by Alan Oldham, Training Division Manager, North Carolina Rural Water Association. The next scheduled external review is in 2028.

North Carolina One Water and Program staff regularly review and revise the distribution school curriculum, commonly referred to as "*Needs to Know*". The "*Needs to Know*" is an outline of topics required for each grade of certification and includes references cited within the textbooks used by the schools. The NC One Water Board of Education and Examiners and Program staff meet after each examination to review the results of distribution and cross-connection examinations and make any necessary changes. Similarly, the North Carolina Waterworks Operators Association Board of Education and Program staff periodically review and revise the well and surface school curriculum. In addition, if examination results indicate a high percentage of students answered a specific question incorrectly, the wording of the question is checked for ambiguity. Ambiguous questions may be removed or clarified for future examinations. References on the answer key are also checked to ensure they are understandable and clear.