

SECTION .1300 – OPERATION OF PUBLIC WATER SUPPLIES**15A NCAC 18C .1301 GENERAL REQUIREMENTS**

- (a) For the purposes of this Section,
- (1) A “facility” is defined as any individual operational unit or a combination of operational units that a public water system uses in the treatment or distribution of drinking water.
 - (2) Any “operator” referenced in this Section shall hold a valid certificate issued by the North Carolina Water Treatment Facility Operators Certification Board. An “Operator in Responsible Charge (ORC)” designated for each facility shall hold a grade of certification corresponding to or higher than the classification of the facility.
- (b) Treatment facility. The supplier of water shall have an Operator in Responsible Charge (ORC), as required by 15A NCAC 18D .0206. The ORC or certified treatment facility operator working under the direction of the ORC shall be familiar with the entire water system, including the chlorinators, piping and other appurtenances pertaining to the operation of the treatment plant and the distribution system.
- (c) Distribution facility. The collection of distribution system samples and field measurements required on monthly operations reports, including residual disinfectant testing in the distribution system in accordance with Rule .1302(a)(2)(A) of this Section may be performed by a person under the ORC’s direction, subject to the following provisions:
- (1) The standard operating procedures plan prepared in accordance with 15A NCAC 18D .0701(f) shall include procedures for sampling and for performing residual disinfectant tests and other field measurements.
 - (2) In order to report low residual disinfectant rest readings or other problems, the designee shall, at all times, be able to contact the ORC or certified operator working under the direction of the ORC, who shall take corrective action as needed to keep the system in compliance.

*History Note: Authority G.S. 90A-29; 130A-315; P.L. 93-523;
Eff. January 1, 1977;
Readopted Eff. December 5, 1977;
Amended Eff. October 1, 2009; July 1, 1994; September 1, 1990; September 1, 1979;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff.
November 23, 2015.*

15A NCAC 18C .1302 TESTS, FORMS AND REPORTING

- (a) Required tests. If a public water system uses disinfectants or other chemicals for the treatment of water, residual disinfectant tests and other applicable water quality tests required by this Subchapter shall be made during every oversight visit to the facility required by Rule .1303 of this Section. Residual disinfectant concentrations shall be maintained in accordance with 15A NCAC 18C .2002 and .2201 and shall be tested as follows:
- (1) Residual disinfectant tests at the entry point. For systems providing treatment, residual disinfectant concentrations shall be measured in the water entering the distribution system by the operator during every visit required by Rule .1303(a) of this Section.
 - (2) Residual disinfectant tests in the distribution system shall be performed as follows:
 - (A) Residual disinfectant concentrations shall be measured weekly at locations that represent maximum residence time of the water in the distribution system or at other locations with high water age. These locations shall be designated on the sample siting plan required under 15A NCAC 18C .1534. The number of required weekly tests shown in Table A below. Samples collected on the same day must be collected from different locations.

Table A: Measurement Requirements for Residual Disinfectant Concentrations and Chloramine Operational Parameters

Distribution System Classification according to 15A NCAC 18D .0205(b)	Minimum Number of Samples per Week
D	1
C	3
A and B	5

(B) Distribution systems classified as C or D in Table A may request the Department to reduce the requirements for measuring residual disinfectant concentrations in the distribution system at the locations that represent maximum residence time or other locations with high water age as required in Part (a)(2)(A) of this Rule. The request shall be in writing and shall demonstrate to the Department that the residual disinfectant concentrations measured at the entry point in accordance with Subparagraph (a)(1) of this Rule are sufficient in providing the minimum residual disinfectant concentrations required under 15A NCAC 18C .2002 and .2201. The Department shall consider the presence of continuous monitoring, size and configuration of the distribution system, magnitude of disinfectant degradation and results of performance studies.

(3) Chloramine Operational Parameters. When ammonia and chlorine are applied disinfectants, the system shall measure analytical parameters pertinent to the operation as follows:

(A) Water entering the distribution system. Parameters to be measured shall, at a minimum, include total chlorine, monochloramine, free ammonia, and pH and shall be performed daily, while the treatment facility is in operation.

(B) Water in the distribution system. Parameters to be measured shall, at a minimum, include total chlorine, monochloramine, free ammonia, and pH and shall be measured no less often than denoted in Table A.

(b) Forms, Reports and Records. A public water system shall report and retain records as follows:

(1) Tests results shall be documented and reported monthly on forms and in a format provided by the Department and shall be signed by the ORC. Copies of report forms may be obtained from the Public Water Supply Section. The monthly report shall be submitted by the 10th day of the following month to the Public Water Supply Section.

(2) The forms and reports shall be in an electronic format provided by the Department for water systems owned or operated by local governments and all community water systems serving 1,000 or more service connections or 3,000 or more individuals, regardless of ownership, effective April 1, 2010. Community water systems serving less than 1,000 service connections and less than 3,000 individuals and all non-transient, non-community water systems shall report test results in an electronic format provided by the Department effective October 1, 2010. The Department may waive the requirement for electronic submission in accordance with G.S. 130A-329. Requests for waivers shall be submitted in writing to the Department no less than two months prior to the deadline.

(3) Records documenting compliance with Section .1300 shall be retained on the premises of the water system for a minimum of three years.

History Note: Authority G.S. 90A-29; 130A-315; P.L. 93-523;

Eff. January 1, 1977;
Readopted Eff. December 5, 1977;
Amended Eff. October 1, 2009; July 1, 1994; September 1, 1990; February 1, 1987; June 30, 1980;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. November 23, 2015.

15A NCAC 18C .1303 FACILITY OVERSIGHT

(a) Treatment facility oversight. At a minimum, the supplier of water shall ensure that during each oversight visit required by this Rule the water system's treatment facility receives a routine visual inspection from the source to the point where water enters the distribution system; equipment settings are adjusted and chemical feed tanks are filled as necessary; dates and quantities of chemicals added are recorded; and the physical and chemical tests required on plant monthly operation reports are performed. In addition, the supplier of water shall have an ORC, or a certified treatment facility operator working under the direction of the ORC, on site as frequently as necessary to ensure compliance with the requirements of this Section and Subchapter. At least one visit per week shall be performed by the ORC for the treatment facility or by an operator with a grade of certification corresponding to or higher than the classification of the facility. The supplier of water shall provide oversight at a public water system treatment facility while the facility is in operation, as follows:

- (1) Surface water or Groundwater Under the Direct Influence (GWUDI) of Surface Water Treatment Facilities. Surface water or GWUDI systems shall provide an operator as required in 15A NCAC 18D .0206 and shall have the ORC or an operator with a grade of certification corresponding to or higher than the classification of the facility on-site at least 20 percent of the time the facility is in operation, as calculated on a weekly basis.
- (2) Ground Water Treatment Facilities. The requirements for ground water treatment facilities are as follows:
 - (A) Ground water treatment facilities with any individual parameter rating value of 10 or higher as classified by 15A NCC 18D .0203 shall be visited by an operator daily.
 - (B) Ground water treatment facilities with all individual parameter rating values less than 10 as classified 15A NCAC 18D .0203 shall be visited by an operator as often as necessary to ensure compliance with the requirements of this Subchapter but no less often than denoted in Table B below. For the standard frequency of three times per week, no more than two consecutive days shall pass between operator oversight visits. For the standard frequency of two times per week, no more than three consecutive days shall pass between operator oversight visits.
- (3) Supplemental Treatment Facilities. The requirements for supplemental treatment facilities are as follows:
 - (A) A supplemental treatment facility, including booster chlorination, is a facility designed to treat water that has previously been treated to meet standards of the "North Carolina Drinking Water Act." Supplemental treatment facilities with any individual parameter rating value of 10 or higher as designated by 15A NCAC 18D .0203 shall be visited by an operator daily.
 - (B) Supplemental treatment facilities with all individual parameter rating values less than 10 as designated by 15A NCAC 18D .0203 shall be visited by an operator as often as necessary to ensure compliance with the requirements of this Subchapter but no less often than denoted in Table B below. For the standard frequency of three times per week, no more than two consecutive

days shall pass between operator oversight visits. For the standard frequency of two times per week, no more than three consecutive days shall pass between operator oversight visits.

Table B: Standard Frequency of Oversight Visits for Ground Water and Supplemental Treatment Facilities

SYSTEM TYPE	Population size	Standard frequency of oversight VISITS
Community	> 10,000 > 3,300 to 9,999 501 to 3,300 500 or fewer	Daily Five times per week Three times per week Two times per week
Non-transient, non-community	> 1,000 1,000 or fewer	Three times per week Two times per week
Transient, non-community	Any population size	Once per week, unless an ORC is not required by 15A NCAC 18C .0206.

(b) Distribution Facility Oversight. Distribution facilities have no specified standard frequency of oversight visits under this Section. The distribution facility shall be visited by the operator as frequently as necessary to operate the facility, provide emergency response and ensure compliance with the requirements of this Section and Subchapter.

(c) Increased Frequency of Oversight. The requirements for increasing the frequency of oversight visits are:

- (1) A system that fails to maintain any operational parameter or has any failure of the treatment or distribution facility that would cause a violation of water quality or treatment standards of Section .1500 of this Subchapter shall be visited by the operator daily until the system has returned to compliance, as determined by the Department. Daily visits shall be required for all systems failing to maintain minimum residual disinfectant concentrations under Rules .2002 or .2201 of this Subchapter or maximum residual disinfectant levels under Rule .2008 of this Subchapter until compliant disinfection levels are restored, regardless of the standard frequency of oversight visits for that system.
- (2) The Department may required additional operator oversight visits for a system that has a violation of this Subchapter, an equipment malfunction, a customer complain, an emergency or other situation that may affect the ability of the system to comply with the requirements of this Subchapter. In determining the frequency and duration of increased oversight visits, the Department shall consider the following:
 - (A) nature of the malfunction, complaint, emergency or other situation;
 - (B) degree of risk to the public health or welfare;
 - (C) size and type of population exposed;
 - (D) type of treatment and chemicals used by the water system;
 - (E) type, size, and configuration of the distribution system; and
 - (F) potential or actual damage to property or the environment.

(d) Reduced Frequency of Oversight. The Department may grant written approval to reduce the standard frequency of operator oversight visits of this Subchapter to not less than once per week if a system can document compliance with this Subchapter and any of the following:

- (1) Equivalence public health protection is provided through use of remotely controlled continuous monitoring and recording technology. The recorded data must be reviewed at a minimum of five days a week. This technology must be capable of contacting the

- operator 24 hours a day, seven days a week in case of operational failure, including a loss of signal.
- (2) Equivalent public health protection is provided by operator visits less frequent than those specified under Part(a)(2)(B) of this Rule based on a facility's overall contribution to the daily flow of the water system and the system's proposed alternative plan and schedule.
 - (3) Equivalent public health protection is provided through use of process control devices and standard operating procedures to ensure that no chemical misfeeds can occur and include all of the following, at a minimum:
 - (A) Wiring of chemical pumps to the well pumps such that they must operate simultaneously;
 - (B) Devices to regulate chemical feeds such that overfeeding and underfeeding of chemicals is prevented;
 - (C) anti-siphoning devices installed to prevent siphonage of chemicals into the water system;
 - (D) demonstration that adequate chemical storage and supply is available to ensure continuous feed between visits; and
 - (E) equipment is calibrated in accordance with manufacturers' recommendations but in no case less than once per year.

*History Note: Authority G.S. 90A-29; 130A-315; P.L. 93-523;
Eff. January 1, 1977;
Readopted Eff. December 5, 1977
Amended Eff. October 1, 2009; July 1, 1994; September 1, 1990; June 30, 1980; September 1, 1979;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff.
November 23, 2015.*

15A NCAC 18C .1304 WATER SYSTEM OPERATION AND MAINTENANCE

- (a) Water systems shall be operated and maintained in accordance with applicable approved engineering plans and specifications, Water System Management Plan and Operation and Maintenance Plan.
- (b) Water systems shall be operated and maintained in accordance with 15A NCAC 18D, Rules Governing Water Treatment Facility Operators, Rule .0206 and G.S. 90A-29.

*History Note: Authority G.S. 90A-29; 130A-315; P.L. 93-523;
Temporary Adoption Eff. October 1, 1999;
Eff. August 1, 2000;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff.
November 23, 2015.*

15A NAC 18C .1305 SOURCE WATER PROTECTION PLANNING

- (a) In compliance with G.S. 130A-320, every supplier of water operating a public water system treating and furnishing water from a surface water source shall create and implement a Source Water Protection Plan. For purposes of this Rule, the Source Water Protection Plan required by G.S. 130A-320 shall be referred to as a Source Water Resiliency and Response Plan (SWRRP).
- (b) The SWRRP shall include a list of potential contaminant sources (PCSs) that have potential to reach surface waters, both provided by the Department and supplemented by the water system if additional PCSs are known to exist by the supplier of water. The listed PCSs will be located in the following areas as defined in Classifications and Water Quality Standards Applicable to Surface

Water and Wetlands of North Carolina, 15A NCAC 02B .0200, which is hereby incorporated by reference, including subsequent amendments and editions:

- (1) within the entire watershed for waters classified as WS-I;
 - (2) within the critical area and 1,000 feet from perennial streambanks within the protected area for waters classified as WS-II and WS-III;
 - (3) within the critical area and 1,000 feet from perennial streambanks within the protected area for waters classified as WS-IV;
 - (4) with ½ mile from the normal pool elevation in which the intake is located, or to the ridge line of the watershed, whichever comes first, for a reservoir within waters classified as WS-V; and
 - (5) within ½ mile, measured as a straight line, upstream from and draining to the intake located directly in the stream or river, or to the ridge line of the watershed, whichever comes first, for a direct-stream intake within waters classified as WS-V.
- (c) Any community water system subject to this Rule shall certify completion and implementation of a SWRRP by December 31, 2022. The SWRRP shall contain the following elements:
- (1) identification and contact information of personnel responsible for emergency management, including water system, local, State, and federal emergency response personnel;
 - (2) an evaluation of a water system's ability to take the following actions:
 - (A) close its water intake(s) in the event of contamination, including a determination of the duration of time the water intake(s) can remain closed while maintaining positive water pressure within the distribution system;
 - (B) isolate or divert contaminated water from its surface water intake(s);
 - (C) reduce demand by implementing conservation measures during a contamination event. Water Shortage Response Plans may be referenced to fulfill this requirements for water systems required to prepare a Water Shortage Response Plan under 15A NCAC 02E .0607, which is hereby incorporated by reference, including subsequent amendments and editions; and
 - (D) meet demand via alternate sources of supply in the event of contamination or loss of its primary water source.
 - (3) identification of foreseeable natural and human-caused emergency events, including water shortages and outages;
 - (4) a description of the emergency response strategies for each identified shortage or outage event and each potential contamination event associated with PCSs identified and listed in Paragraph (b) of this Rule;
 - (5) standard operating procedures to close intakes and switch to an alternate intake during a contamination event, including procedures that outline exercises designed to practice closure and switching of the intake(s);
 - (6) a description of public notification procedures; and
 - (7) identification and evaluation of all facilities and equipment that upon failure would result in a water outage or violations of this Subchapter.
- (d) For community water systems that are subject to this Rule and also required to complete a Risk and Resilience Assessment and an Emergency Response Plan under Section 2013 of America's Water Infrastructure Act of 2018 (AWIA), the system's Risk and Resilience Assessment and Emergency Response Plan created to comply with AWIA may be referred to as a SWRRP and used to satisfy the requirements of this Rule, if the PCS list was compiled in accordance with Paragraph (b) of this Rule. The schedule for certifying completion and implementation of the SWRRP pursuant to this Paragraph shall be as follows:

- (1) by September 30, 2020 for community water systems serving more than 100,000 people;
 - (2) by June 30, 2021 for community water systems serving 50,000 to 99,999 people; and
 - (3) by December 30, 2021 for community water systems serving 3,301 to 49,999 people.
- (e) Non-transient, non-community water systems subject to this Rule shall certify completion and implementation of a SWRRP by December 31, 2022. The SWRRP shall contain the following elements:
- (1) identification and contact information of personnel responsible for emergency management, including water system, local, State, and federal emergency response personnel; and
 - (2) an evaluation of a water system's ability to take the following actions:
 - (A) close its water intake(s) in the event of contamination, including a determination of the duration of time the water intake(s) can remain closed while maintaining positive water pressure within the distribution system;
 - (B) isolate or divert contaminated water from its surface water intake(s);
 - (C) reduce demand by implementing conservation measures during a contamination event; and
 - (D) meet demand via alternate sources of supply in the event of contamination or loss of its primary water source.
- (f) Any public water system that begins treating and furnishing water from a surface water source on or after December 31, 2022 shall create and implement a SWRRP that satisfies the requirements of this Rule prior to the commencement of its operations.
- (g) Any public water system required to create and implement a SWRRP in accordance with this Rule shall review and update its SWRRP at five-year intervals from its creation deadline, as specified in Paragraph (c), (d), (e) or (f) of this Rule.
- (h) The SWRRP and any associated documentation used in its creation and implementation shall be available for review by Department staff upon request.
- (i) The supplier of water shall certify that a SWRRP has been created and implemented, and that the water system's governing body has been advised of the SWRRP creation and implementation. The certification shall be submitted to the Department by the deadline specified in Paragraphs (c), (d), (e), or (f) of this Rule.
- (j) The supplier of water shall certify that a SWRRP has been revised and that the water system's governing body has been advised of the revision. The certification shall be submitted to the Department by the revision deadline specified in Paragraph (g) of this Rule.

*History Note: Authority G.S. 130A-315; 130A-320(c);
Eff. January 1, 2019;
Amended Eff. April 1, 2020.*