

SECTION .2000 - FILTRATION AND DISINFECTION**15A NCAC 18C .2001 GENERAL REQUIREMENTS**

The provisions of 40 C.F.R. 141.70 are incorporated by reference, including subsequent amendments and editions. Copies may be obtained as set forth in Rule .0102(b) of this Subchapter.

History Note: Authority G.S. 130A-315; P.L. 93-523; 40 C.F.R. 141.70; Eff. January 1, 1991; Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. November 23, 2015; Amended Eff. July 1, 2019.

15A NCAC 18C .2002 DISINFECTION

(a) The provisions of 40 C.F.R. 141.72 are incorporated by reference, including subsequent amendments and editions. Copies may be obtained as set forth in Rule .0102(b) of this Subchapter. These provisions are adopted with the following exceptions:

- (1) Water entering the distribution system. In 40 C.F.R. 141.72 (a)(2), (a)(3), and (b)(2), "0.2 mg/l" of residual disinfectant concentration shall be replaced with "0.2 mg/l measured as free chlorine when chlorine is the only applied disinfectant and 1.0 mg/l measured as total chlorine when ammonia and chlorine are applied disinfectants."
- (2) Water in the distribution system at coliform sampling sites. In 40 C.F.R. 141.72(a)(4) and (b)(3), "undetectable" shall be replaced with "less than 0.2 mg/l measured as free chlorine when chlorine is the only applied disinfectant and less than 1.0 mg/l measured as total chlorine when ammonia and chlorine are applied disinfectants."

(b) Water in the distribution system at maximum residence time sites. For samples collected at maximum residence time sites or at other locations with high water age as required by Rule .1302(a)(2) of this Subchapter, residual disinfectant concentrations shall be at detectable levels as set forth and calculated in 40 C.F.R. 141.72(a)(4) and (b)(3).

(c) All surface water treatment facilities shall include chemical disinfection for a minimum 0.5 log Giardia inactivation.

History Note: Authority G.S. 130A-315; P.L. 93-523; 40 C.F.R. 141.72; Eff. January 1, 1991; Amended Eff. April 1, 2014; October 1, 2009; Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. November 23, 2015; Amended Eff. July 1, 2019.

15A NCAC 18C .2003 FILTER BACKWASH RECYCLING RULE

(a) The requirements of this Rule shall apply to a public water system that uses a surface water source or a groundwater source under the direct influence of surface water. The provisions of 40 C.F.R. 141.73 are hereby incorporated by reference including any subsequent amendments and editions. Copies are available for public inspection as set forth in Rule .0102 of this Subchapter. Any dates set forth in the federal rule shall be applicable.

(b) The requirements of this Rule shall apply to a public water system that uses a surface water source or a groundwater source under the direct influence of surface water; uses direct or conventional filtration processes; and recycles spent filter backwash water, sludge thickener supernatant, or liquids from dewatering processes. The provisions of 40 C.F.R. 141.76 are hereby incorporated by reference including any subsequent amendments and editions. Copies are available for public inspection as set forth in Rule .0102 of this Subchapter. Any dates set forth in the federal rule shall be applicable.

History Note: Authority G.S. 130A-315; P.L. 93-523; 40 C.F.R. 141.73; 40 C.F.R. 141.76; Eff. January 1, 1991; Amended Eff. April 1, 2014; August 1, 2002; Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. November 23, 2015.

15A NCAC 18C .2004 ANALYTICAL AND MONITORING REQUIREMENTS

The provisions of 40 C.F.R. 141.74 are hereby adopted by reference in accordance with G.S. 150B-21.6 including subsequent amendments and editions. Copies are available for public inspection as set forth in Rule .0102 of this Subchapter. These provisions are adopted with the following exceptions:

- (1) The residual disinfectant concentration of the water entering the distribution system shall be monitored continuously, and the lowest value shall be recorded each day, except that if there is a failure in the continuous monitoring equipment, grab sampling every four hours may be conducted in lieu of continuously monitoring, but for no more than five working days following the failure of the equipment. Systems serving 3,300 or fewer persons may take grab samples in lieu of providing continuous monitoring on an ongoing basis at the frequency of every four hours that water is being treated.
- (2) In 40 C.F.R. 141.74, "0.2 mg/l" of residual disinfectant concentration shall be replaced with "0.2 mg/l measured as free chlorine when chlorine is the singular applied disinfectant and 1.0 mg/l measured as total chlorine when ammonia and chlorine are applied disinfectants."

History Note: Authority G.S. 130A-315; P.L. 93-523; 40 C.F.R. 141.74;
Eff. January 1, 1991;
Amended Eff. April 1, 2014; October 1, 2009;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. November 23, 2015.

15A NCAC 18C .2005 CRITERIA FOR AVOIDING FILTRATION

The provisions of 40 C.F.R. 141.71 are incorporated by reference, including subsequent amendments and editions. Copies may be obtained as set forth in Rule .0102(b) of this Subchapter.

History Note: Authority G.S. 130A-315; P.L. 93-523; 40 C.F.R. 141.71;
Eff. January 1, 1991;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. November 23, 2015;
Amended Eff. July 1, 2019.

15A NCAC 18C .2006 REPORTING AND RECORD KEEPING REQUIREMENTS

The provisions of 40 C.F.R. 141.75 are hereby adopted by reference in accordance with G.S. 150B-21.6 including subsequent amendments and editions. Copies are available for public inspection as set forth in Rule .0102 of this Subchapter. These provisions are adopted with the following exception: In 40 C.F.R. 141.75, "0.2 mg/l" of residual disinfectant concentration shall be replaced with "0.2 mg/l measured as free chlorine when chlorine is the singular applied disinfectant and 1.0 mg/l measured as total chlorine when ammonia and chlorine are applied disinfectants."

History Note: Authority G.S. 130A-315; P.L. 93-523; 40 C.F.R. 141.75;
Eff. January 1, 1991;
Amended Eff. April 1, 2014; October 1, 2009;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. November 23, 2015.

15A NCAC 18C .2007 ENHANCED FILTRATION AND DISINFECTION

- (a) Public water systems shall respond to the Department in writing to significant deficiencies outlined in sanitary survey reports no later than 45 days after receipt of the report, indicating how and on what schedule the system will address significant deficiencies noted in the survey.
- (b) Public water systems shall take necessary steps to address significant deficiencies identified in sanitary survey reports if such deficiencies are within the control of the public water system and its governing body.
- (c) Sanitary survey means an onsite review by the Department of the water source (identifying sources of contamination using results of source water assessments where available), facilities, equipment, operation, maintenance, and monitoring compliance of a public water system to evaluate the adequacy of the system, its sources and operations and the distribution of safe drinking water.

(d) Significant deficiency means a defect in a system's design, operation, or maintenance, as well as any failures or malfunctions of its treatment, storage, or distribution system, that is causing or has the potential to cause the introduction of contamination into water delivered to customers.

(e) When a public water system is required to conduct a comprehensive performance evaluation (CPE) pursuant to this Subchapter, the CPE shall include:

- (1) assessment of water treatment plant performance;
- (2) evaluation of major unit processes;
- (3) identification and prioritization of performance limiting factors;
- (4) assessment of the applicability of comprehensive technical assistance; and
- (5) a written CPE report.

The public water system shall participate in a comprehensive technical assistance (CTA) activity when the Department determines, based on the CPE results, there is a potential for improved water treatment performance and the public water system is able to receive and implement technical assistance. During the CTA phase, the public water system shall use the CPE results to identify and systematically address factors limiting performance of its water treatment plant; further, the public water system shall implement process control priority-setting techniques, and maintain long-term involvement in training staff and administrators.

(f) The provisions of 40 C.F.R. 141, Subpart P - Enhanced Filtration and Disinfection - (Systems Serving 10,000 or More People), and Subpart T - Enhanced Filtration and Disinfection - (Systems Serving Fewer than 10,000 People) and the provisions of 40 C.F.R. 141, Subpart W- Enhanced Treatment for Cryptosporidium are hereby incorporated by reference including any subsequent amendments and editions. Copies are available for public inspection as set forth in Rule .0102 of this Subchapter.

History Note: Authority G.S. 130A-315; P.L. 93-523; 40 C.F.R. 141 Eff. August 1, 2000; Amended Eff. April 1, 2014; October 1, 2009; November 1, 2005; Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. November 23, 2015.

15A NCAC 18C .2008 DISINFECTANTS AND DISINFECTION BYPRODUCTS

(a) The provisions of 40 C.F.R. 141.53 are incorporated by reference, including subsequent amendments and editions. Copies may be obtained as set forth in Rule .0102(b) of this Subchapter.

(b) The provisions of 40 C.F.R. 141.54 are incorporated by reference, including subsequent amendments and editions. Copies may be obtained as set forth in Rule .0102(b) of this Subchapter.

(c) The provisions of 40 C.F.R. 141.64 are incorporated by reference, including subsequent amendments and editions. Copies may be obtained as set forth in Rule .0102(b) of this Subchapter.

(d) The provisions of 40 C.F.R. 141.65 are incorporated by reference, including subsequent amendments and editions. Copies may be obtained as set forth in Rule .0102(b) of this Subchapter.

(e) The provisions of 40 C.F.R. 141, Subpart L- Disinfectant Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors, and the provisions of 40 C.F.R. 141, Subparts U-Initial Distribution System Evaluations and Subpart V - Stage 2 Disinfection Byproducts Requirements are incorporated by reference, including subsequent amendments and editions. Copies may be obtained as set forth in Rule .0102(b) of this Subchapter.

History Note: Authority G.S. 130A-313; 130A-315; P.L. 93-525; 40 C.F.R. 141; Eff. August 1, 2000; Amended Eff. April 1, 2014; October 1, 2009; August 1, 2002; Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. November 23, 2015; Amended Eff. July 1, 2019.