CHAPTER Env-Dw 700 WATER QUALITY: STANDARDS, MONITORING, TREATMENT, COMPLIANCE, AND REPORTING

Statutory Authority: RSA 485:2, V; RSA 485:41, IV

PART Env-Dw 716 FILTRATION, DISINFECTION, AND WASTE RECYCLING

REVISION NOTE #1: [Not relevant to this Part]

REVISION NOTE #2:

Document #9619, effective 1-1-10, adopted rules in a new Part Env-Dw 715, which was intended to replace the former rules in Part Env-Ws 382. Document #9733, effective 6-24-10, subsequently repealed the former rules Env-Ws 382.

Part Env-Dw 715 in Document #9619, upon the repeal of the former rules in Part Env-Ws 382, replaced all prior filings for the former rules. The prior filings for the former rules Env-Ws 382 include the following documents:

#7735, eff 8-2-02 #8351, eff 5-14-05

Document #9620, effective 1-1-10, adopted rules in a new Part Env-Dw 716, which was intended to replace the former rules in Part Env-Ws 380. Document #9732, effective 6-24-10, subsequently repealed the former rules Env-Ws 380.

Part Env-Dw 716 in Document #9620, upon the repeal of the former rules in Part Env-Ws 380, replaced all prior filings for the former rules. The prior filings for the former rules Env-Ws 380 include the following documents:

#6521, eff 6-4-97 #7754, eff 8-21-02 #8352, eff 5-14-05

REVISION NOTE #3: [Not relevant to this Part]

REVISION NOTE #4: [Not relevant to this Part]

REVISION NOTE #5: [Not relevant to this Part]

REVISION NOTE #6: [Not relevant to this Part]

PART Env-Dw 716 FILTRATION, DISINFECTION, AND WASTE RECYCLING

Env-Dw 716.01 Purpose.

(a) The purpose of this part is to establish requirements for filtration, disinfection, and waste recycling as specified in 40 CFR 141 Subpart H, §§70-76, 40 CFR 141 Subpart P, §§170 - 175, 40 CFR 141 Subpart T, §§500 - 571, and 40 CFR 141 Subpart W, §§700-723, which, pursuant to 40 CFR § 141.1, constitute national primary drinking water requirements.

(b) To meet the purpose stated in (a), above, this part establishes:

(1) Requirements for filtration and disinfection at public water systems supplied by a surface water source and public water systems supplied by a source of groundwater under the direct influence of surface water;

(2) Treatment technique requirements in lieu of maximum contaminant levels for giardia lamblia, viruses, heterotrophic plate count bacteria, legionella, cryptosporidium, and turbidity; and

(3) Criteria under which recycle provisions and recordkeeping requirements apply to public water systems that employ conventional filtration or direct filtration treatment and recycle spent backwash water, thickener supernatant, or liquids from dewatering processes.

Source. #9620, eff 1-1-10 (See RN #2 at p. i); ss by #12533, eff 6-1-18

Env-Dw 716.02 Applicability.

This part shall apply to each public water system (PWS) supplied by:

(a) Surface water;

(b) Groundwater under the direct influence of surface water; or

(c) Any combination of surface water and groundwater under the direct influence of surface water.

Source. #9620, eff 1-1-10 (See RN #2 at p. i); ss by #12533, eff 6-1-18

Env-Dw 716.03 Definitions.

(a) "Backwash water" means the water and solids contained therein which is generated by the process of reversing the flow of water back through the filter media to remove entrapped solids.

(b) "Conventional filtration" means "conventional filtration treatment" as defined in 40 CFR § 141.2, reprinted in Appendix B.

(c) "Cryptosporidium" means a microorganism found in raw water that can cause illness in humans and domestic animals after ingestion.

(d) "Direct filtration" means "direct filtration" as defined in 40 CFR § 141.2, reprinted in Appendix B.

(e) "Flocculation" means "flocculation" as defined in 40 CFR § 141.2, reprinted in Appendix B.

(f) "Giardia lamblia" means a microorganism found in raw water that can colonize and reproduce in the small intestine, causing giardiasis.

(g) "Legionella" means "legionella" as defined 40 CFR 141.2, reprinted in Appendix B.

(h) "PWS subject to this part" means a public water system that is in one of the categories listed in Env-Dw 716.02.

(i) "Sedimentation" means "sedimentation" as defined in 40 CFR § 141.2, reprinted in Appendix B.

(j) "Virus" means "virus" as defined at 40 CFR § 141.2, reprinted in Appendix B.

(k) "Waste recycling" means the return of spent filter backwash water, thickener supernatant, and liquids from a treatment solids dewatering processes to the core process for treatment.

Source. #9620, eff 1-1-10 (See RN #2 at p. i); ss by #12533, eff 6-1-18

Env-Dw 716.04 Filtration and Disinfection Required. The O/O of a PWS subject to this part shall comply with the filtration and disinfection requirements of 40 CFR §§ 141.70-73.

Source. #9620, eff 1-1-10 (See RN #2 at p. i); ss by #12533, eff 6-1-18

Env-Dw 716.05 Analytical and Monitoring Requirements. The O/O of a PWS subject to this part shall comply with the analytical and monitoring requirements of 40 CFR § 141.74.

Source. #9620, eff 1-1-10 (See RN #2 at p. i); ss by #12533, eff 6-1-18

Env-Dw 716.06 Reporting and Recordkeeping Requirements. The O/O of a PWS subject to this part shall comply with the reporting and recordkeeping requirements of 40 CFR § 141.75.

Source. #9620, eff 1-1-10 (See RN #2 at p. i); ss by #12533, eff 6-1-18

Env-Dw 716.07 Recycling Requirements. The O/O of a PWS subject to this part at which water is treated by conventional filtration or direct filtration and spent backwash water, thickener supernatant, or liquids from dewatering processes are recycled shall comply with 40 CFR § 141.76.

Source. #9620, eff 1-1-10 (See RN #2 at p. i); ss by #12533, eff 6-1-18

Env-Dw 716.08 Enhanced Filtration and Disinfection Requirements. The O/O of a PWS subject to this part shall comply with the enhanced filtration and disinfection requirements of:

(a) 40 CFR 141 Subpart P, §§170-175, if the PWS serves 10,000 persons or more; or

(b) 40 CFR 141 Subpart T, §§500-571, if the PWS serves fewer than 10,000 persons.

Source. #9620, eff 1-1-10 (See RN #2 at p. i); ss by #12533, eff 6-1-18

Env-Dw 716.09 Enhanced Treatment for Cryptosporidium. The O/O of a PWS subject to this part shall comply with the enhanced treatment for cryptosporidium requirements of 40 CFR 141 Subpart W, §§700 -723.

Source. #9620, eff 1-1-10 (See RN #2 at p. i); ss by #12533, eff 6-1-18

APPENDIX A: STATE STATUTES, FEDERAL REGULATIONS IMPLEMENTED

Rule Section(s)	State Statute(s) Implemented	Federal Regulation(s) Implemented
Env-Dw 716	RSA 485:3, I & VI RSA 485:41, II & IV	40 CFR 141 Subpart H (§§70-76) 40 CFR 141 Subpart P (§§171-175) 40 CFR 141 Subpart T (§§500-571) 40 CFR 141 Subpart W (§§700-723)

APPENDIX B - FEDERAL DEFINITIONS

40 CFR §141.2

Compliance cycle means the nine-year calendar year cycle during which public water systems must monitor. Each compliance cycle consists of three three-year compliance periods. The first calendar year cycle begins January 1, 1993 and ends December 31, 2001; the second begins January 1, 2002 and ends December 31, 2010; the third begins January 1, 2011 and ends December 31, 2019.

Compliance period means a three-year calendar period within a compliance cycle. Each compliance cycle has three three-year compliance periods. Within the first compliance cycle, the first compliance period runs from January 1, 1993 to December 31, 1995; the second from January 1, 1996 to December 31, 1998, the third from January 1, 1999 to December 31, 2001.

Corrosion inhibitor means a substance capable of reducing the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.

Domestic or other non-distribution system plumbing problem means a coliform contamination problem in a public water system with more than one service connection that is limited to the specific service connection from which a coliform-positive sample was taken.

Dose equivalent means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified the International Commission on Radiological Units and Measurements (ICRU).

Initial compliance period means the first full three-year compliance period which begins at least 18 months after promulgation, except for contaminants listed at §141.61(a)(19)-(21), (c) (19)-(33), and § 141.62(b)(11)-(15), initial compliance period means the first full three-year compliance period after promulgation for systems with 150 or more service connections (January 1993-December 1995), and first full three-year compliance period after the effective date of the regulation (January 1996-December 1998) for systems having fewer than 150 service connections.

Lead service line means a service line made of lead which connects the water main to the building inlet and any lead pigtail, gooseneck or other fitting which is connected to such lead line.

Level 1 assessment is an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. It is conducted by the system operator or owner. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g. whether a ground water system is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The system must conduct the assessment consistent with any State directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system.

Level 2 assessment is an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. A Level 2 assessment provides a more detailed examination of the system (including the system's monitoring and operational practices) than does a Level 1 assessment through the use of more comprehensive investigation and review of available information, additional internal and external resources, and other relevant practices. It is conducted by an individual approved by the State, which may include the system operator. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g., whether a ground water system is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The system must conduct the assessment consistent with any State directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and

characteristics of the distribution system. The system must comply with any expedited actions or additional actions required by the State in the case of an E. coli MCL violation.

Man-made beta particle and photon emitters mean all radionuclides emitting beta particles and/or photons listed in Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, NBS Handbook 69, except the daughter products of thorium-232, uranium-235 and uranium-238.

Near the first service connection means at one of the 20 percent of all service connections in the entire system that are nearest the water supply treatment facility, as measured by water transport time within the distribution system.

Point-of-entry treatment device" (POE) means a treatment device applied to the drinking water entering a house or building for the purpose of reducing contaminants in the drinking water distributed throughout the house or building.

Point-of-use treatment device (POU) means a treatment device applied to a single tap used for the purpose of reducing contaminants in drinking water at that one tap.

Repeat compliance period means any subsequent compliance period after the initial compliance period.

Residual disinfectant concentration ("C" in CT calculations) means the concentration of disinfectant measured in mg/l in a representative sample of water.

Too numerous to count means that the total number of bacterial colonies exceeds 200 on a 47-mm diameter membrane filter used for coliform detection.

40 CFR §141.91 Recordkeeping requirements:

"Any system subject to the requirements of this subpart shall retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, State determinations, and any other information required by §§141.81 through 141.88. Each water system shall retain the records required by this section for no fewer than 12 years."

APPENDIX C: OTHER FEDERAL PROVISIONS

40 CFR §141.400(c) General Requirements

(c) General requirements. Systems subject to this subpart must comply with the following requirements:

(1) Sanitary survey information requirements for all ground water systems as described in § 141.401.

(2) Microbial source water monitoring requirements for ground water systems that do not treat all of their ground water to at least 99.99 percent (4-log) treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log virus inactivation and removal) before or at the first customer as described in § 141.402.

(3) Treatment technique requirements, described in § 141.403, that apply to ground water systems that have fecally contaminated source waters, as determined by source water monitoring conducted under § 141.402, or that have significant deficiencies that are identified by the State or that are identified by EPA under SDWA section 1445. A ground water system with fecally contaminated source water or with significant deficiencies subject to the treatment technique requirements of this subpart must implement one or more of the following corrective action options: correct all significant deficiencies; provide an alternate source of water; eliminate the source of contamination; or provide treatment that reliably achieves at least 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log virus inactivation and removal) before or at the first customer.

(4) Ground water systems that provide at least 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log virus inactivation and removal) before or at the first customer are required to conduct compliance monitoring to demonstrate treatment effectiveness, as described in § 141.403(b).

(5) If requested by the State, ground water systems must provide the State with any existing information that will enable the State to perform a hydrogeologic sensitivity assessment. For the purposes of this subpart, ‘‘hydrogeologic sensitivity assessment’’ is a determination of whether ground water systems obtain water from hydrogeologically sensitive settings.