

*Readopt with amendment Env-Dw 715, eff. 1-1-10 (doc. #9619), to read as follows:*

PART Env-Dw 715 DISINFECTION RESIDUALS, BYPRODUCTS, AND BYPRODUCT PRECURSORS

Env-Dw 715.01 Purpose. The purpose of these rules is to establish procedures and standards for the control of disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors by public water system ~~owners~~ ***O/Os***, as specified in 40 CFR 141 Subpart L, §§130-135, 40 CFR 141 Subpart U, §§600-605, and 40 CFR 141 Subpart V, §§620-629, which, pursuant to 40 CFR 141.1, constitute national primary drinking water requirements.

Env-Dw 715.02 Applicability. This part shall apply to:

(a) Each community water system or non-transient non-community water system at which any chemical disinfectant, including chlorine dioxide, is added to the water in any part of the treatment process; and

(b) Each transient non-community water system at which chlorine dioxide is added as a disinfectant or oxidant to the water in any part of the treatment process.

Env-Dw 715.03 Definitions.

~~(a) “Community water system” means “community water system” as defined in RSA 485:1-a, I, as reprinted in Appendix C.~~ *{now in Env-Dw 103}*

***(a) “Combined distribution system” means “combined distribution system” as defined in 40 CFR § 141.2, as reprinted in Appendix B.***

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

~~(c) “Haloacetic acids (five) (HAA5)” means “Haloacetic acids (five) (HAA5)” as defined in 40 CFR 141.2, as reprinted in Appendix B.~~ *{now in Env-Dw 103}*

***(c) “Dual sample set” means “dual sample set” as defined in 40 CFR § 141.2, as reprinted in Appendix B.***

***(d) “GAC10” means “GAC10” as defined in 40 CFR § 141.2, as reprinted in Appendix B.***

***(e) “GAC20” means “GAC20” as defined in 40 CFR § 141.2, as reprinted in Appendix B.***

***(f) “Locational running annual average” means “locational running annual average” as defined in 40 CFR § 141.2, as reprinted in Appendix B.***

~~(g) “Maximum residual disinfectant level (MRDL)” means “maximum residual disinfectant level” as defined in 40 CFR § 141.2, as reprinted in Appendix B.~~

~~(e) “Non-transient non-community water system” means “non-transient non-community water system” as defined in RSA 485:1-a, XI, as reprinted in Appendix C.~~ *{now in Env-Dw 103}*

~~(f) “Public water system (PWS)” means “public water system” as defined in RSA 485:1-a, XV, as reprinted in Appendix C.~~ *{now in Env-Dw 103}*

***(gh) “PWS subject to this part” means a public water system that is in one of the categories listed in Env-Dw 715.02.***

~~(h) “Surface Water/Groundwater Under the Influence of Surface Water System (SW/GWUDISW System)” means a public water system using surface water or ground water under the direct influence of surface water as a source.~~ *{now in Env-Dw 103}*

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Explanatory comments in *{bracketed blue italics}*

~~(i) “Total trihalomethanes (TTHM)” means “Total trihalomethanes (TTHM)” as defined in Env Ws 302.82 or successor rules in Env Dw 100, as reprinted in Appendix B.~~ *{now in Env-Dw 103}*

~~(j) “Transient non-community water system” means “transient non-community water system” as defined in Env Ws 302.83 or successor rules in Env Dw 100, as reprinted in Appendix B.~~ *{now in Env-Dw 103}*

***(i) “Wholesale system” means “wholesale system” as defined in 40 CFR § 141.2, as reprinted in Appendix B.***

Env-Dw 715.04 Increasing Residual Disinfectant Levels. Notwithstanding the MRDLs specified in ~~Env Ws 315 or successor rules in Env-Dw 700~~, the ~~owner~~***O/O*** of a PWS subject to this part may increase the distribution system residual disinfectant levels of chlorine or chloramines, but not chlorine dioxide, pursuant to 40 CFR § 141.130(d).

Env-Dw 715.05 Analytical Requirements. The ~~owner~~***O/O*** of a PWS subject to this part shall conduct analyses as specified in 40 CFR § 141.131.

Env-Dw 715.06 Monitoring Requirements.

(a) The ~~owner~~***O/O*** of a PWS subject to this part shall conduct sampling and monitoring as specified in 40 CFR § 141.132 and § 141.133.

(b) Multiple wells for which a disinfectant is added at multiple separate points shall be considered as one treatment plant for determining the minimum number of TTHM and HAA5 samples specified in 40 CFR § 141.132, in accordance with the following criteria:

- (1) Routine monitoring at a frequency specified in 40 CFR § 141.132 shall have been performed for a minimum of one year;
- (2) Running annual average results shall be less than 0.040 mg/L for TTHM and less than 0.030 mg/L for HAA5;
- (3) For overburden wells, multiple wells shall be located within the same aquifer as determined using the stratified drift aquifer mapping of the U.S. Geological Survey;
- (4) For bedrock wells, multiple wells shall be located within an area of less than 4,000 feet in radius; and
- (5) The water quality of the multiple wells shall be within the following limits:
  - a. pH within 0.5 units, using one of the analytical methods specified in 40 CFR § 141.23(k);
  - b. Total hardness within 10 mg/L, as CaCO<sub>3</sub>;
  - c. Alkalinity within 10 mg/L, as CaCO<sub>3</sub>; and
  - d. Conductivity within 50 ~~μ~~***μ***mhos/cm<sup>2</sup>.

(c) If running annual average results for multiple wells initially considered as one treatment plant in (b), above, subsequently exceed 0.040 mg/L for TTHM or 0.030 mg/L for HAA5, each well shall then be considered as a separate treatment plant for monitoring purposes, subject to the routine and reduced monitoring frequency requirements specified in 40 CFR § 141.132.

Env-Dw 715.07 Compliance Determination. The department shall determine compliance with the requirements of Env-Dw 715.06 by a PWS subject to this part as specified in 40 CFR § 141.133.

Env-Dw 715.08 Reporting and Recordkeeping Requirements. The ~~owner~~ ***O/O*** of a PWS subject to this shall report to the department as specified in 40 CFR § ***141.134***.

Env-Dw 715.09 Treatment Technique for Control of Disinfection Byproduct Precursors. The ~~owner~~ ***O/O*** of a SW/GWUDISW system that is in one of the categories listed in Env-Dw 715.02 and that uses conventional filtration shall meet the requirements of 40 CFR § 141.135 ***relative to treatment techniques for control of disinfection byproduct precursors***.

Env-Dw 715.10 Initial Distribution System Evaluations and Stage 2 Disinfection Byproduct Requirements. The following shall comply with the requirements of 40 CFR §§ 141.600-605 ***relative to initial distribution system evaluations*** and 40 CFR §§ 141.620-629 ***relative to stage 2 disinfection byproducts requirements***:

- (a) ~~An owner~~ ***The O/O*** of a community water system that uses a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light; and
- (b) ~~An owner~~ ***The O/O*** of a non-transient non-community water system that serves at least 10,000 people and uses a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light.
- (c) ***The O/O of a transient non-community water system that uses chlorine dioxide or delivers water that has been treated with chlorine dioxide.***

**APPENDIX A: STATUTES/REGULATIONS IMPLEMENTED**

<b>Rule Section(s)</b>	<b>State Statute(s) Implemented</b>	<b>Federal Regulation(s) Implemented</b>
Env-Dw 715	RSA 485:3, I(c) RSA 485:41, II & IV	40 CFR 141 Subpart L (§§130-135); 40 CFR 141 Subpart U (§§600-605); 40 CFR 141 Subpart V (§§620-629)

**APPENDIX B: FEDERAL DEFINITIONS**

**40 CFR §141.2**

*Coagulation* means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs.

*Combined distribution system* means an interconnected distribution system consisting of the distribution systems of wholesale systems and of the consecutive systems that receive finished water.

*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.

*Conventional filtration treatment* means a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal.

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*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.

*Direct filtration* means a series of processes including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal.

*Disinfection* means a process which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

*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).

*Dual sample set* means a set of two samples collected at the same time and same location, with one sample analyzed for TTHM and the other sample analyzed for HAA5. Dual sample sets are collected for the purposes of conducting an IDSE under subpart U and determining compliance with the TTHM and HAA5 MCLs under subpart V.

*Flocculation* means a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable particles through gentle stirring by hydraulic or mechanical means.

*GAC10* means granular activated carbon filter beds with an empty-bed contact time of 10 minutes based on average daily flow and a carbon reactivation frequency of every 180 days, except that the reactivation frequency for GAC10 used as a best available technology for compliance with subpart V MCLs under §141.64(b)(2) shall be 120 days.

*GAC20* means granular activated carbon filter beds with an empty-bed contact time of 20 minutes based on average daily flow and a carbon reactivation frequency of every 240 days.

*Ground-water under the direct influence of surface water (GWUDI)* means any water beneath the surface of the ground with significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia* or *Cryptosporidium*, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions.

*Haloacetic acids (five) (HAA5)* mean the sum of the concentrations in milligrams per liter of the haloacetic acid compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid), rounded to 2 significant figures after addition.

*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.

*Large water system*, for the purpose of subpart I of this part only, means a water system that serves more than 50,000 persons.

*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.

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*Legionella* means a genus of bacteria, some species of which have caused a type of pneumonia called legionnaires disease.

*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.

*Locational running annual average (LRAA)* means the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

*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.

*Maximum residual disinfectant level (MRDL)* means a level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects.

*Medium-size water system*, for the purpose of subpart I of this part only, means a water system that serves greater than 3,300 and less than or equal to 50,000 persons.

*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.

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*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.

*Sedimentation* means a process for removal of solids before filtration by gravity or separation.

*Small water system*, for the purpose of subpart I of this part only, means a water system that serves 3,300 persons or fewer.

*Surface water* means all water which is open to the atmosphere and subject to surface runoff.

*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.

*Virus* means a virus of fecal origin which is infectious to humans by waterborne transmission.

*Wholesale system* means a public water system that treats source water as necessary to produce finished water and then delivers some or all of that finished water to another public water system. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.

#### **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.”