PROPOSED AMENDMENTS TO THE RULES
OF THE DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
RELATING TO SAFE DRINKING WATER, CHAPTER 391-3-5

The Rules of the Department of the Natural Resources, Chapter 391-3-5, Safe Drinking Water, are hereby amended and revised for specific Rules, or such subdivisions thereof as may be indicated.

[Note: Underlined text is proposed to be added. ~~Lined-through~~ text is proposed to be deleted.]

CHAPTER 391-3-5 SAFE DRINKING WATER

391-3-5-.02 Definitions. ~~Amended.~~

All terms used in these rules shall be interpreted in accordance with the definitions as set forth in the Georgia Safe Drinking Water Act of 1977 or as herein defined:
(1) "Act" means the Georgia Safe Drinking Water Act of 1977, as amended.
(2) "Action Level" means the concentration of a contaminant, which if exceeded, triggers treatment or other requirements which a water system must follow.
(3) "Aquifer" means any stratum or zone of rock beneath the surface of the earth capable of containing water or producing water from a well.
(4) "Aquifer Testing" means a controlled pumping test of a well lasting at least 24 continuous hours in which the water level and the pumping rate are monitored at closely spaced intervals and the water level is monitored for at least as long a time following the test as the duration of the test.
(5) "Backflow" means the reverse flow of contaminated water, other liquid, gas, or substance into the distribution system of a potable water supply.
(6) "Back pressure" means a condition in which the pressure in a non-potable system is greater than the pressure in the potable distribution system and can cause contaminants to backflow into the potable system.
(7) "Backsiphonage" means a form of backflow caused by a negative or below atmospheric pressure within the potable water system.
(8) "Bag filters" are pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed of a non-rigid, fabric filtration media housed in a pressure vessel in which the direction of flow is from the inside of the bag to outside.
(9) "Bank filtration" is a water treatment process that uses a well to recover surface water that has naturally infiltrated into ground water through a river bed or bank(s). Infiltration is typically enhanced by the hydraulic gradient imposed by a nearby pumping water supply or other well(s).
(10) "Business plan" means a written plan which is prepared to demonstrate a public water system's managerial and financial capacity to comply with all drinking water regulations in effect, or likely to be in effect. The business plan is to be prepared in conformance with Appendix A of the Division's "Minimum Standards for Public Water

Systems", latest edition. The business plan shall be updated at intervals determined by the Director.
(11) "Best Available Technology" or "BAT" means the best technology, treatment techniques, or other means promulgated by EPA and adopted by the Division. In promulgating BAT the EPA examines the efficacy under field conditions and not solely under laboratory conditions, and takes costs into consideration when determining what technology or treatment technique is available.
(12) "CFR" means the Code of Federal Regulations, Title 40. The Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.
(13) "Capacity" means the overall capability of a water system to reliably produce and deliver water meeting all national primary drinking water regulations in effect, or likely to be in effect. Capacity encompasses the technical, managerial, and financial capabilities, as described in the latest edition of EPD's "Minimum Standards for Public Water Systems" and will enable a water system to plan for, achieve, and maintain compliance with applicable drinking water standards.
(14) "Cartridge filters" are pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed as rigid or semi-rigid, self-supporting filter elements housed in pressure vessels in which flow is from the outside of the cartridge to the inside.
(15) "Casing" means the tubular material used to shut off or exclude a stratum or strata and to protect against entrance of contaminants during the expected life of the well.
(16) "Clean compliance history" is, for the purposes of the Revised Total Coliform Rule, 391-3-5-.55, a record of: no MCL violations; no monitoring violations; and no coliform treatment technique trigger exceedances or treatment technique violations.
~~(16)~~(17) "Coagulation" means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs.
~~(17)~~(18) "Combined distribution system" is the interconnected distribution system consisting of the distribution systems of wholesale systems and of the consecutive systems that receive finished water.
~~(18)~~(19) "Community water system" or "CWS" means a public water system, which serves at least 15 service connections, used by year-round residents or regularly serves at least 25 year-round residents.
~~(19)~~(20) "Compliance cycle" means the nine-year calendar year cycle during which public water systems must monitor. Each compliance cycle consists of three-year compliance periods. The first compliance cycle begins January 1, 1993.
~~(20)~~(21) "Compliance period" means a three-year calendar year period within a compliance cycle. Each compliance cycle has three-year compliance periods.
~~(21)~~(22) "Comprehensive performance evaluation" or "CPE" means a thorough review and analysis of a treatment plant's performance-based capabilities and associated administrative, operation and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant's capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. For purpose of compliance with subparts P and T of 40 CFR Part 141, the CPE shall consist of at least the following components: Assessment of plant performance; evaluation of major unit processes; identification and prioritization of

performance limiting factors; assessment of the applicability of comprehensive technical assistance; and preparation of a CPE report.

~~(22)~~(23) "Confirmation Sample" means a sample analysis or analyses taken to verify the results of an original analysis. Each sample for the analysis shall be taken or measured at the same location in the water system as the original sample. The results of the confirmation samples shall be averaged with the original sample to determine compliance.

~~(23)~~(24) "Confined Aquifer" means an aquifer which is separated from the land surface by a significant zone of low permeability which prevents surface recharge or pollutants from readily reaching the aquifer.

~~(24)~~(25) "Confluent growth" means a continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete.

~~(25)~~(26) "Consecutive system" is a public water system that receives some or all of its finished water from one or more wholesale systems. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.

~~(26)~~(27) "Consumer Confidence Report" means an annual report that community water systems must deliver to their customers which, as a minimum, contains information on the quality of the water delivered by the system and characterizes the risks (if any) from exposure to contaminants detected in the drinking water in an accurate and understandable manner.

~~(27)~~(28) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

~~(28)~~(29) "Conventional filtration treatment" means a series of processes including coagulation flocculation, sedimentation, and filtration resulting in substantial particulate removal.

~~(29)~~(30) "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.

~~(30)~~(31) "Cross-connection" means any physical arrangement whereby a public water supply is connected, directly or indirectly, with any other water supply system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture, or other device which contains or may contain contaminated water, sewage or other waste, or liquid of unknown or unsafe quality which may be capable of imparting contamination to the public water supply as the result of backflow. By-pass arrangements, jumper connections, removable sections, swivel or changeable devices, and other temporary or permanent devices through which or because of which backflow could occur are considered to be cross-connections.

~~(31)~~(32) "CT" is the product of "residual disinfectant concentration" (C) in milligrams per liter determined before or at the first customer tap where water is provided for human consumption and the corresponding "disinfectant contact time" (T) in minutes.

~~(32)~~(33) "Department" means the Department of Natural Resources of the State of Georgia.

~~(33)~~(34) "Diatomaceous earth filtration" means a process resulting in substantial particulate removal in which (1) a pre-coat cake of diatomaceous earth filter media is deposited on a support membrane (septum), and (2) while the water is filtered by

passing through the cake on the septum, additional filter media known as the body feed is continuously added to feed water to maintain the permeability of the filter cake.

~~(34)~~(35) "Direct filtration" means a series of processes including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal.

~~(35)~~(36) "Director" means the Director of the Environmental Protection Division, Department of Natural Resources of the State of Georgia, or his designee.

~~(36)~~(37) "Disinfectant" means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic microorganisms.

~~(37)~~(38) "Disinfectant contact time" ("T" in CT calculations) means the time in minutes that it takes for water to move from the point of disinfectant application or the previous point where residual disinfectant concentration ("C") is measured.

~~(38)~~(39) "Disinfection" means a process, which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

~~(39)~~(40) "Disinfection profile" means a summary of *Giardia lamblia* inactivation through the treatment plant. The procedure for developing a disinfection profile is contained in 40 CFR § 141.172~~.~~ (Disinfection profiling and benchmarking) in subpart P and §§ 141.530- 141.536 (Disinfection profile) in subpart T of 40 CFR Part 141.

~~(40)~~(41) "Division" means the Environmental Protection Division, Department of Natural Resources of the State of Georgia.

~~(41)~~(42) "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 the coliform-positive sample was taken.

~~(42)~~(43) "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 by the International Commission on Radiological Units and Measurements (ICRU).

~~(43)~~(44) "Drinking Water" means water supplied to the public for human consumption from a public water system.

~~(44)~~(45) "Dual sample set" is 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 of 40 CFR, Part 141 and determining compliance with the TTHM and HAA5 MCLs under subpart V of 40 CFR, Part 141.

~~(45)~~(46) "Effective corrosion inhibitor residual" for the purpose of compliance with ~~Section~~Rule 395-3-5-.25, means a concentration sufficient to form a protective film on the interior walls of a pipe.

~~(46)~~(47) "Enhanced coagulation" means the addition of sufficient coagulant for improved removal of disinfection byproduct precursors by conventional filtration treatment.

~~(47)~~(48) "Enhanced softening" means the improved removal of disinfection byproduct precursors by precipitative softening.

~~(48)~~(49) "Entry Point" means the sample point where after treatment drinking water enters the distribution system. For purposes of the Act and the Rules, "entry point" shall be defined as a sample location anywhere on the finished water line after treatment, up to and including the first service or customer tap.

~~(49)~~(50) "EPA" means the United States Environmental Protection Agency.
~~(50)~~(51) "Exemption" means approval from the Division affording a public water system, existing as of the effective date of these rules, an extended time for compliance with a maximum contaminant level or treatment technique contained in a drinking water standard. An exemption pertains to non-compliance with a maximum contaminant level for reasons other than that instance when application of a generally available treatment method fails to adequately treat the raw water source.
~~(51)~~(52) "Federal Act" means the Federal Safe Drinking Water Act, 1974 P.L. 93-523, as amended.
~~(52)~~(53) "Filter profile" means a graphical representation of individual filter performance, based on continuous turbidity measurements or total particle counts versus time for an entire filter run, from startup to backwash inclusively, that includes an assessment of filter performance while another filter is being backwashed.
~~(53)~~(54) "Filtration" means a process for removing particulate matter from water by passage through porous media.
~~(54)~~(55) "Finished water" is water that is introduced into the distribution system of a public water system and is intended for distribution and consumption without further treatment, except as treatment necessary to maintain water quality in the distribution system (*e.g.*, booster disinfection, addition of corrosion control chemicals).
~~(55)~~(56) "First draw sample" means a one-liter sample of tap water collected in accordance with ~~Section~~Rule 391-3-5-.25, that has been standing in the plumbing pipes at least 6 hours and is collected without flushing the tap.
~~(56)~~(57) "Flocculation" means a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable particles by gentle stirring by hydraulic or mechanical means.
~~(57)~~(58) "Flowing stream" is a course of running water flowing in a definite channel.
~~(58)~~(59) "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 40 CFR § 141.64(b)(2) shall be 120 days.
~~(59)~~(60) "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.
~~(60)~~(61) "Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.
~~(61)~~(62) "Gross beta particle activity" means the total radioactivity due to beta particle emission as inferred from measurement on a dry sample.
~~(62)~~(63) "Ground water" means water obtained from wells and/or springs used as a source of water supply for a public water system.
~~(63)~~(64) "Ground water under the direct influence of surface water" (GWUDI) means any water beneath the surface of the ground with:
(a) significant occurrence of insects or other microorganisms, algae, or large-diameter pathogens such as *Giardia lamblia*, or *Cryptosporidium*, or

(b) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions.

~~(64)~~(65) "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 two significant figures after addition.

~~(65)~~(66) "Halogen" means one of the chemical elements chlorine, bromine or iodine.

~~(66)~~(67) "Hazardous Material" means any chemical, substance or material that is classified as Hazardous by the U.S. Environmental Protection Agency (CFR 40, Part 261).

~~(67)~~(68) "Health hazards" mean any conditions, devices, or practices in a water supply system or its operation, which create or may create an imminent and substantial danger to the health and well-being to the water consumer.

~~(68)~~(69) "Heterotrophic plate count" formerly known as the standard plate count, is a procedure for estimating the number of live heterotrophic bacteria in water. Unless stated otherwise, heterotrophic plate count refers to Method 9215, the pour plate method, as set forth in *Standard Methods for the Examination of Water and Wastewater*, American Public Health Association, 18th Edition, 1992, pp. 9-32 to 9-34, or subsequent edition.

~~(69)~~(70) "Initial compliance period" means the first full three-year compliance period that begins January 1, 1993.

~~(70)~~(71) "Inventory" for the purpose of ~~Section~~Rule 391-3-5-.40 means a written or computer database listing of all potential sources of ground-water pollution located within a wellhead protection area.

~~(71)~~(72) "Lake/reservoir" refers to a natural or man-made basin or hollow on the Earth's surface in which water collects or is stored that may or may not have a current or single direction of flow.

~~(72)~~(73) "Large water system" for the purpose of ~~Section~~Rule 391-3-5-.25 (Lead & Copper) means a water system that serves more than 50,000 persons.

~~(73)~~(74) "Lead service line" means a line made of lead, which connects the discharge side of the water meter to the building inlet and any lead pigtail, gooseneck or other fitting, which is connected to such lead line.

~~(74)~~(75) "*Legionella*" means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.

(76) "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 Division 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.

(77) "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 Division, 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 Division 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 Division in the case of an *E. coli* MCL violation.

~~(75)~~(78) "Locational running annual average" (LRAA) is the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

~~(76)~~(79) "Man-made beta particle and photon emitters" means 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.

~~(77)~~(80) "Maximum contaminant level" (MCL) means the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

~~(78)~~(81) "Maximum contaminant level goal" (MCLG) means the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

~~(79)~~(82) "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.

~~(80)~~(83) "Maximum residual disinfectant level goal" (MRDLG) means the maximum level of a disinfectant added for water treatment at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. MRDLGs are non-enforceable health goals and do not reflect the benefit of the addition of the chemical for control of waterborne microbial contamination.

~~(81)~~(84) "Medium-size water system" for the purpose of ~~Section~~Rule 391-3-5-.25 (Lead & Copper), means a water system that serves greater than 3,300 and less than or equal to 50,000 persons.

~~(82)~~(85) “Membrane filtration” is a pressure or vacuum driven separation process in which particulate matter larger than 1 micrometer is rejected by an engineered barrier, primarily through a size-exclusion mechanism, and which has a measurable removal efficiency of a target organism that can be verified through the application of a direct integrity test. This definition includes the common membrane technologies of microfiltration, ultrafiltration, nanofiltration, and reverse osmosis.
~~(83)~~(86) “Minimum Community Population Determination” for the purpose of the Act and the Rules means the minimum residential population shall be determined by a mathematical calculation of the total number of active residential service connections, multiplied by Georgia’s average population per household, as published in the most recent Federal Census Bureau Statistics. Multiple residential units served by a single connection (master meter) shall be included in the determination of population for a water system.
~~(84)~~(87) “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.
~~(85)~~(88) “Non-community water system” or “NCWS” means a public water system, which provides piped water for human consumption to at least 15 service connections or which serves at least 25 individuals at least 60 days out of the year but which is not a community water system. A non-community water system may be further classified as a “non-transient, non-community water system” or a “transient, non-community water system”.
~~(86)~~(89) “Non-transient, non-community water system” or “NTNCWS” means a public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year.
~~(87)~~(90) “Operator” means the person responsible for the maintenance and operation of the public water system. A certified operator is an operator registered as a Water Treatment Plant Operator in the State of Georgia in accordance with the provisions of the Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act (Georgia Laws 1969, pp. 272 et. seq., as amended). For purposes of this Act a certified operator also includes persons involved with only the storage and distribution of drinking water.
~~(88)~~(91) “Optimal corrosion control treatment” as it applies to ~~Section~~Rule 391-3-5.25 (Lead & Copper) of this Rule, means the corrosion control treatment that minimizes the lead and copper concentrations at user's taps while insuring that the treatment does not cause the water to violate any national primary drinking water regulation.
~~(89)~~(92) “Person” means any individual, corporation, company, association, partnership, county, municipality, State agency, State authority, Federal agency, agency, facility, or other entity.
~~(90)~~(93) “Picocurie” (pCi) means that quantity of radioactive material producing 2.22 nuclear transformations per minute.
~~(91)~~(94) “Plant intake” refers to the works or structures at the head of a conduit through which water is diverted from a source (e.g., river or lake) into the treatment plant.
~~(92)~~(95) “Point of disinfection application” is the point where the disinfectant is applied and water downstream of that point is not subject to recontamination by surface water runoff.

~~(93)~~(96) "Presedimentation" is a preliminary treatment process used to remove gravel, sand and other particulate material from the source water through settling before the water enters the primary clarification and filtration processes in a treatment plant.
~~(94)~~(97) "Professional Engineer" means a person registered to practice professional engineering in the State of Georgia in accordance with the provisions of the Act governing the Practice of Professional Engineering in Georgia. (Ga. Laws 1945, p. 294 et. seq., as amended).
~~(95)~~(98) "Professional Geologist" means a person registered to practice professional geology in the State of Georgia in accordance with the provisions of the Registration of Geologist Act of 1975, (Code 1933, §84-2101a, enacted by the Georgia Legislature 1975, p.163, 1).
~~(96)~~(99) "Public water system" or "PWS" means a system that provides water to the public for human consumption through pipes or other constructed conveyances, if such system has at least fifteen (15) service connections or regularly serves an average of twenty-five (25) individuals daily at least 60 days out of the year. Such terms include: 1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system; and 2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Such term does not include any "special irrigation district." A public water system is a "community water system", a "non-transient non-community water system" or a "transient non-community water system".
~~(97)~~(100) "Raw water" means water from a source of water supply or a proposed source of water supply, which has not received any type of treatment to change the physical, chemical, biological, or radiological quality of the water.
~~(98)~~(101) "Rem" means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A "millirem (mrem)" is 1/1000 of a rem.
~~(99)~~(102) "Repeat compliance period" means any subsequent compliance period after the initial compliance period.
~~(100)~~(103) "Repeat sample" means a sample that is collected and analyzed in response to a previous coliform-positive sample.
~~(101)~~(104) "Residual disinfectant concentration" ("C" in CT calculations) means the concentration of disinfectant measured in milligrams per liter in a representative sample of water.
(105) "Sanitary defect" is a defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place.
~~(102)~~(106) "Sanitary survey" means an on-site review of the water source, facilities, equipment, treatment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of each for producing and distributing safe drinking water.
(107) "Seasonal system" is a non-community water system that is not operated as a public water system on a year-round basis and starts up and shuts down at the beginning and end of each operating season.
~~(103)~~(108) "Sedimentation" means a process for removal of solids before filtration by gravity or separation.

~~(104)~~(109) "Service connection" means the point at which the water distribution main and the water service pipe, metered or unmetered, are connected to serve water to a residence or water customer. As used in the definition of PWS, "service connection" does not include a connection to a system that delivers water by a constructed conveyance other than a pipe if:
(a) The water is used exclusively for purposes other than residential uses (consisting of drinking, bathing, and cooking, or other similar uses);
(b) The Division~~State~~ determines that alternative water to achieve the equivalent level of public health protection provided by the applicable national primary drinking water regulation is provided for residential or similar uses for drinking and cooking; or
(c) The Division~~State~~ determines that the water provided for residential or similar uses for drinking, cooking, and bathing is centrally treated or treated at the point of entry by the provider, a pass-through entity, or the user to achieve the equivalent level of protection provided by the applicable national primary drinking water regulations.
~~(105)~~(110) "Service line sample" means a one-liter sample of water collected in accordance with ~~Section~~Rule 391-3-5-.25 that has been standing for at least 6 hours in the service line.
~~(106)~~(111) "Single family structure" for the purpose of compliance with ~~Section~~Rule 391-3-5-.25 (Lead & Copper), means a building constructed as a single-family residence that is currently used as either a residence or place of business.
~~(107)~~(112) "Slow sand filtration" means a process involving passage of raw water through a bed of sand at low velocity (generally less than 0.4 meters per hour) resulting in substantial particulate removal by physical and biological mechanisms.
~~(108)~~(113) "Small water system" for the purpose of ~~Section~~Rule 391-3-5-.25 (Lead & Copper), means a water system that serves 3,300 persons or fewer.
~~(109)~~(114) "Source of water supply" means the waters of the State from which raw water is taken into a public water system to be treated and/or distributed.
~~(110)~~(115) "Source Water Assessment Plan" (SWAP) means a public report which documents a public drinking water system's and other stakeholders' reasonable efforts to ascertain the potential impact of natural or man-made pollutants, within a wellhead protection or watershed area, on the raw water source for the drinking water supply well or surface water intake.
~~(111)~~(116) "Spring" means a source of water supply which naturally issues forth for the first time from rock or soil onto the land or into a body of water.
~~(112)~~(117) "Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria.
~~(113)~~(118) "Storage tank" or "Tank" means any covered structure, such as clearwell, standpipe, reservoir, elevated tank, hydropneumatic tank or other storage facility or combination thereof used to store drinking water.
~~(114)~~(119) "Subpart H systems" means public water systems using surface water or ground water under the direct influence of surface water as a source.
~~(115)~~(120) "Supplier of water" or "Supplier" means any person who owns or operates a public water system.

~~(116)~~(121) “Surface water” means and includes any and all rivers, streams, branches, creeks, ponds, tributary streams, drainage basins, natural lakes, artificial reservoirs and impoundments and ground water under the direct influence of surface water.
~~(117)~~(122) “SUVA” means Specific Ultraviolet Absorption at 254 nanometers (nm), an indicator of the humic content of water. It is a calculated parameter obtained by dividing a sample’s ultraviolet absorption at a wavelength of 254 nm by its concentration of dissolved organic carbon (DOC) (in mg/L).
~~(118)~~(123) “System with a single service connection” means a system, which supplies drinking water to consumers via a single service line.
~~(119)~~(124) “Total Organic Carbon” (TOC) means total organic carbon in mg/L measured using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of these oxidants that convert organic carbon to carbon dioxide, rounded to two significant figures.
~~(120)~~(125) “Total trihalomethanes” (TTHM) means the sum of the concentration in milligrams per liter of the trihalomethane compounds: trichloromethane (chloroform), dibromochloromethane, bromodichloromethane and tribromomethane (bromoform), rounded to two significant figures.
~~(121)~~(126) “Too numerous to count” means that the total number of bacterial colonies exceed 200 on a 47-mm diameter membrane filter used for coliform detection.
~~(122)~~(127) “Transient non-community water system” or “TNCWS” means a public water system that is not a community water system or a non-transient non-community water system. A transient non-community water system provides piped water for human consumption to at least 15 service connections or which regularly serves at least 25 persons at least 60 days a year.
~~(123)~~(128) “Treatment Technique” means a required process intended to reduce the level of contaminants in drinking water.
~~(124)~~(129) “Treatment technique requirement” means a requirement, which specifies for a contaminant, a specific treatment technique(s), which leads to a reduction in the level of such contaminant sufficient to comply with the requirements of these Rules.
~~(125)~~(130) “Trihalomethane” (THM) means one of the family of organic compounds, named as derivatives of methane, wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.
~~(126)~~(131) “Two-stage lime softening” is a process in which chemical addition and hardness precipitation occur in each of two distinct unit clarification processes in series prior to filtration.
~~(127)~~(132) “Unconfined aquifer” means an aquifer which is not separated from the land surface by a significant zone of low permeability and, therefore, is more susceptible to pollution from the activities of mankind. Wellhead Protection Areas for unconfined aquifers are larger than such areas for confined aquifers.
~~(128)~~(133) “Uncovered finished water storage facility” means a tank, reservoir or other facility used to store water that will undergo no further treatment except residual disinfection and is open to the atmosphere.
~~(129)~~(134) “Variance” means approval from the Division affording a public water system an extended time for compliance with a maximum contaminant level or treatment technique contained in a drinking water standard. A variance pertains to non-compliance with a maximum contaminant level due to the inability to meet the maximum

contaminant level even when a treatment method has been applied to a raw water source. The noncompliance is due to the quality of the raw water.
~~(130)~~(135) "Virus" means a microorganism of fecal origin, which is infectious to humans by waterborne transmission.
~~(131)~~(136) "Waterborne disease outbreak" means the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a public water system which is deficient in treatment, as determined by the Division.
~~(132)~~(137) "Waters" or "Waters of the State" means and includes any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and all other bodies of surface or underground water, natural or artificial, of this State.
~~(133)~~(138) "Watershed Area" means the entire drainage basin upstream of a water intake located on a stream or lake.
~~(134)~~(139) "Well" means any excavation that is cored, bored, drilled, jetted, dug, or otherwise constructed for the purpose of locating, testing, or withdrawing ground water.
~~(135)~~(140) "Wellhead protection area" means an area of potential ground water recharge around a well which should be protected from surface and subsurface sources of manmade pollution in order to protect the quality of drinking water supplies.
~~(136)~~(141) "Wholesale system" is 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.

Authority: O.C.G.A. Sec. 12-5-170 *et seq*.

391-3-5-.06 Source of Water Supply. ~~Amended~~

(1) **Source of Water Supply.** The source of water supply for all public water systems must have the approval of the Division and a valid ground water (Ground Water Use Act of 1972, as amended) or surface water (Georgia Water Quality Control Act of 1977, as amended) withdrawal permit where applicable. Beginning January 1, 1998, all owners and operators of new community public water systems with groundwater sources must provide an approved back-up water supply source, capable of providing adequate water service, if the primary source becomes nonfunctional. The Director may waive this requirement for systems with less than 25 service connections. Beginning December 1, 2009, any new ground water source must provide treatment that reliably achieves at least 4-log (99.99%) treatment of viruses before or at the first customer.
(a) All sources of water supply must be adequate as determined by the Division to meet anticipated growth. For human consumption in a community water system, one hundred (100) gallons per day for the projected population to be served at the end of the design period shall be considered adequate.
1. Beginning January 1, 1998, all new sources constructed for water supply systems, that are required to comply with the rules in this Chapter, shall be metered.
2. Beginning January 1, 1999, permitted water systems shall meter their existing water supply sources, when required by the Division or when the system's existing permit to operate a public water system is renewed or modified.

(b) The water must be of such quality that with reasonable treatment it will meet the Safe Drinking Water Rules of this Chapter.
(c) Before approval of a surface water source the following procedures and requirements must be met:
1. Raw water samples from the proposed source shall be collected by the supplier or designee and submitted to a certified laboratory for microbiological analysis for the period of time and frequency specified by the Division.
2. The supplier shall have the water from the proposed source analyzed for the physical, chemical and radiological parameters specified by the Division in a laboratory acceptable to the Division and shall furnish a copy of the results of the analysis to the Division.
3. For an impoundment source, allowance must be made for water losses including required releases, evaporation, seepage and siltation. Available stream flow and weather records must be used in estimating the yield of the source.
4. Bathing, water skiing, boating, fishing, or other activities in or upon any natural lake, artificial reservoir or impoundment used as a source of water supply must be prohibited, unless evidence is presented to the Division that the drinking water quality will not be adversely affected by these activities and prior written approval for such activity is obtained from the Division.
5. A Source Water Assessment Plan (SWAP) for the proposed surface water source intake must be developed in accordance with the Division's *Source Water Assessment and Protection Implementation Plan for Public Drinking Water Sources*, as outlined in Section 391-3-5-.42 of this Chapter.
(d) Before approval of a ground water source, whether from a well or a spring, the following procedures and requirements must be met:
1. Raw water samples of the proposed source shall be collected by the supplier and submitted to a laboratory certified by the Division for microbiological analysis for a period of time and frequency specified by the Division.
2. The supplier shall, when directed by the Division, have the water from the proposed source analyzed for the physical, chemical and radiological parameters specified by the Division in a laboratory acceptable to the Division and shall furnish a copy of the results of the analysis to the Division.
3. Any drilled well previously used as a source of public water supply but inactive for three or more years and proposed to be reactivated as a source of supply shall be test pumped and meet the requirements of subparagraphs 1. and 2. of this paragraph.
4. A Source Water Assessment Plan (SWAP) for the proposed ground water source must be developed, as applicable, in accordance with the Division's *Source Water Assessment and Protection Implementation Plan for Public Drinking Water Sources*, as outlined in Section 391-3-5-.42 of this Chapter.
(~~f~~e) The Division may direct that a ground water source be evaluated for the influence of surface water. Within eighteen (18) months of Division notification that a ground water source is under the direct influence of surface water, the supplier shall install filtration treatment and may be required by the Division to install additional treatment in accordance with subparagraph (a) of Rule 391-3-5-.09.

Authority: O.C.G.A. Sec. 12-5-170 *et seq*.

391-3-5-.09 Water Treatment Facilities. ~~Amended.~~

(1) **Water Treatment Facility Requirements.** All means and methods of treating, purifying and storing water for public water systems must be approved by the Division. The Division shall consider, but not be limited to, the following requirements when evaluating water treatment facilities for a public water system:

(a) Surface water treatment plants and ground water treatment plants must be of such design and capacity to provide for the required treatment of the raw water so that the drinking water will comply with the rules of this Chapter. In addition, surface water treatment plants and plants treating ground water under the influence of surface water must provide facilities for filtration of the raw water, and must provide, when required by the Division, flocculation and sedimentation of the raw water and continuous coagulation or application of other filter aids for optimization of filter performance.

1. Water treatment plants processing surface water sources shall include, but not be limited to, means for rapid mixing, flocculation, sedimentation, filtration and disinfection. The treatment plant shall be of such construction to allow units to be taken out of service without disrupting operation and required treatment processes.

2. Based upon the quality of raw water, the quality desired in the finished water and other factors, multiple-stage treatment facilities and/or presedimentation facilities, shall be provided when required by the Division.

(b) The Division may accept new and alternate treatment means, methods and technologies, provided the following are demonstrated to the satisfaction of the Division:

1. T~~t~~he treatment method has been thoroughly tested in full scale comparable installations by an acceptable third party, in accordance with protocol and standards acceptable to the Division.

2. The treatment method has been thoroughly tested in a pilot plant approved by the Division, by an acceptable third party, in accordance with protocol and standards acceptable to the Division, and operated for a period that will demonstrate the effectiveness and reliability of the proposed treatment system during changes in seasonal, and climatic conditions.

3. C~~c~~ompliance with the treatment technique requirements of paragraph (1)(p) ~~of this section~~.

(c) Water from a spring shall be disinfected and retained in a detention tank for a minimum of thirty (30) minutes unless otherwise approved by the Division; and such additional water treatment as the Division may require for the drinking water to comply with the rules of this Chapter.

(d) Chemical feed equipment shall be of such design and capacity to accurately supply, at all times, the treatment chemicals required.

(e) Chlorination equipment may be solution-feed-gas-type but must have sufficient feed capacity for the treatment of the raw water and drinking water to maintain a chlorine residual in the drinking water as required by paragraph (2) of ~~Section~~Rule 391-3-5-.14.

(f) Gas chlorination equipment and cylinders must be housed in a separate room or facility provided for that purpose, separated from the other treatment facilities and chemicals. The following shall be required:

1. Chlorine cylinders stored or used outdoors must be protected from the direct rays of the sun by shading and additionally protected to prevent unauthorized tampering.
2. Chlorine cylinders must be secured from accidental tipping or movement.
3. A chlorine gas mask or self-contained gas mask (air pack) must be provided outside the gas chlorine room or facility or otherwise made available and be readily accessible to the operator for repairs or emergencies.
4. Forced air ventilation, placed near floor level and near the cylinders, must be provided to exhaust any leaking chlorine gas from a confined room or facility. Exhaust fumes must be directed away from the entrance to the room or facility. The fan must be activated by an outside switch or start automatically when the door is opened.
5. A small bottle of fresh ammonia solution shall be provided for testing for chlorine gas leaks.

(g) Hypochlorite feeders are not required to be placed in a separate room or facility.

(h) Other means of disinfection such as iodine, ultra-violet light, or ozone treatment may be approved by the Division.

(i) There must be sufficient space for chemical storage.

(j) Fluoridation equipment and chemicals, where used, must be placed in a separate room or facility provided for that purpose, unless otherwise approved by the Division.

(k) Each water treatment facility must have, as may be required by the Division, a laboratory and laboratory equipment to perform daily tests pertinent to the proper control of the required water treatment operations.

(l) Water sampling taps shall be placed in the water treatment facility, as may be required by the Division, for obtaining water samples to perform laboratory tests to ensure the proper functioning of the water treatment facility.

(m) A metering device to measure the flow of raw water and/or treated water is required for all surface water treatment plants and all new wells serving public water systems.

(n) Water from a well used as a source of water supply shall be disinfected unless otherwise approved by the Division and such additional water treatment as the Division may require for the drinking water to comply with the rules of this Chapter.

(o) Chemical water treatment equipment must be installed in such a manner to prevent back-siphonage or overdosing of the chemicals to the water supply.

(p) Each public water system with a surface water source or a ground water source under the direct influence of surface water must provide treatment of that source water that complies with these treatment technique requirements. The treatment technique requirements consist of installing and properly operating water treatment processes which reliably achieve:

1. At least 99.9 percent (3-log) removal and/or inactivation of *Giardia lamblia* cysts between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer; and
2. At least 99.99 percent (4-log) removal and/or inactivation of viruses between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer.
3. At least 99 percent (2-log) removal of *Cryptosporidium* between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer for filtered systems. This treatment technique requirement is

applicable to Subpart H systems serving at least 10,000 people, beginning January 1, 2002, and to systems serving fewer than 10,000 people, beginning January 14, 2005.

(q) Effective June 29, 1993, each public water system with a surface water source or a ground water source under the direct influence of surface water source shall conduct continuous monitoring of the residual disinfectant concentration of the water entering the distribution system. The continuous online chlorine analyzer shall be calibrated in accordance with EPA Method 334.0. Systems must record the results of the residual disinfectant monitoring every fifteen (15) minutes, and record and report the lowest value each day, except if there is a failure in the continuous monitoring equipment, grab sampling every 4 hours may be conducted in lieu of continuous monitoring, but for no more than 5 working days following the failure of the equipment, and systems serving 3,300 or fewer persons may take grab samples in lieu of providing continuous monitoring on an ongoing basis at the frequencies each day prescribed below:

Population Served	**Samples per day**[1]
500 or fewer	1
501 to 1,000	2
1,001 to 2,500	3
2,501 to 3,300	4

Note: [1] The day's samples cannot be taken at the same time. The sampling intervals are subject to Division review and approval. The residual disinfectant concentration in the water entering the distribution system cannot be less than 0.2 mg/L for more than four hours. If at any time the residual disinfectant concentration falls below 0.2 mg/L in a system using grab sampling in lieu of continuous monitoring, the system must take a grab sample every 4 hours until the residual disinfectant concentration is equal to or greater than 0.2 mg/L.

1. Maintenance of the disinfectant residual in the distribution system must conform to paragraph (2) of Rule 391-3-5-.14.

2. Until March 31, 2016, the residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in 40 CFR §141.21

3. Beginning April 1, 2016, ~~T~~the residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, ~~except that~~as specified in Rule 391-3-5-.55(4) through (8). ~~t~~The Division may allow a public water system which uses both a surface water source or a ground water source under the direct influence of surface water, and a ground water source, to take disinfectant residual samples at points other than the total coliform sampling points if the Division determines that such points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as specified in 40 CFR § 141.74(a)(1), may be measured in lieu of residual disinfectant concentration.

(r) Filter backwash recycling requirement: 40 CFR § 141.76 is hereby incorporated by reference. All subpart H systems that employ conventional filtration or direct filtration treatment and that recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes must meet the requirements in paragraphs (b), (c) and (d) of 40 CFR § 141.76.

1. Treatment technique requirement. Any system that recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes must return these flows through the processes of a system's existing conventional or direct filtration system as defined in 40 CFR § 141.2 or at an alternate location approved by the Division by June 8, 2004. If capital improvements are required to modify the recycle location to meet this requirement, all capital improvements must be completed no later than June 8, 2006.
2. Record keeping. The system must collect and retain on file recycle flow information specified in paragraphs (d)(1) through (6) or 40 CFR § 141.76 for review and evaluation by the Division beginning June 8, 2004.

Authority: O.C.G.A. Sec. 12-5-170 *et seq.*

391-3-5-.18 Primary Maximum Contaminant Levels for Drinking Water. ~~Amended.~~

(1) **Primary MCLs for Inorganics.** INORGANICS - The maximum contaminant levels (MCLs) for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, mercury, nickel, selenium and thallium of this ~~section~~Rule apply to community water systems and non-transient, non-community water systems. The MCLs for fluoride in this ~~section~~Rule apply to community water systems. The MCLs for nitrate, nitrite, and total nitrate-nitrite of this ~~section~~Rule apply to all (CWS, NTNCWS, TNCWS) public water systems.
(a) The following are the maximum contaminant levels for inorganic chemicals:

Contaminant	**Maximum Contaminant Level (mg/L)**	**Applicable ~~-~~Systems**
Antimony	0.006	CWS, NTNCWS
Arsenic	0.010	CWS, NTNCWS
Asbestos	7 Million Fibers/Liter Longer than 10 µm	CWS, NTNCWS
Barium	2	CWS, NTNCWS
Beryllium	0.004	CWS, NTNCWS
Cadmium	0.005	CWS, NTNCWS
Chromium	0.1	CWS, NTNCWS
Cyanide	0.2	CWS, NTNCWS
Fluoride[1,2]	4.0	CWS
Lead	see 391-3-5-.25 Treatment Technique	CWS, NTNCWS
Mercury	0.002	CWS, NTNCWS
Nickel	0.1	CWS, NTNCWS
Nitrate	10 (as N)	CWS, NTNCWS, TNCWS

Contaminant	Maximum Contaminant Level (mg/L)	Applicable Systems
Nitrite	1 (as N)	CWS, NTNCWS, TNCWS
Total Nitrate + Nitrite	10 (as N)	CWS, NTNCWS, TNCWS
Selenium	0.05	CWS, NTNCWS
Thallium	0.002	CWS, NTNCWS

NOTES:
1. Effective date for fluoride was October 2, 1987.
2. Fluoride also has a secondary MCL (~~Section~~Rule 391-3-5-.19(2)).

(b) At the discretion of the Director, nitrate levels not to exceed 20 mg/L may be allowed in a non-community water system if the supplier of water demonstrates to the satisfaction of the Director that:
1. such water will not be available to children under 6 months of age;
2. there will be continuous posting of the fact that nitrate levels exceed 10 mg/L and the potential health effects of exposure;
3. local and State public health authorities will be notified annually of nitrate levels that exceed 10 mg/L;
4. no adverse health effects shall result.

(2) **Primary MCLs for Organics.** ORGANIC CHEMICALS - The following maximum contaminant levels for organic contaminants apply to community water systems and non-transient, non-community water systems. Compliance with maximum contaminant levels for the following organics is to be calculated pursuant to ~~Section~~Rule 391-3-5-.22.

(a) Synthetic Organic Chemicals, Pesticides and Polychlorinated biphenyls

Contaminant	Maximum Contaminant Level (mg/L)
Alachlor	0.002
Aldicarb	Deferred
Aldicarb sulfone	Deferred
Aldicarb sulfoxide	Deferred
Atrazine	0.003
Benzo(a)Pyrene	0.0002
Carbofuran	0.04
Chlordane	0.002
Dalapon	0.2
Di(2-ethylhexyl) adipate	0.4
Di(2-ethylhexyl) phthalate	0.006
Dibromochloropropane (DBCP)	0.0002

Contaminant	**Maximum Contaminant Level (mg/L)**
Dinoseb	0.007
Diquat	0.02
2,4-D	0.07
Endothall	0.1
Endrin	0.002
Ethylene dibromide (EDB)	0.00005
Glyphosate	0.7
Heptachlor	0.0004
Heptachlor Epoxide	0.0002
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lindane	0.0002
Methoxychlor	0.04
Oxamyl (Vydate)	0.2
Pentachlorophenol	0.001
Picloram	0.5
Polychlorinated biphenyls (PCBs)	0.0005
Simazine	0.004
Toxaphene	0.003
2,4,5-TP (Silvex)	0.05
2,3,7,8-TCDD (Dioxin)	3×10^{-8}

(b) Volatile Organic Contaminants (VOCs)

Contaminant	**Maximum Contaminant Level (mg/L)**
Vinyl chloride	0.002
Benzene	0.005
Carbon tetrachloride	0.005
1,2-Dichloroethane	0.005
Trichloroethylene	0.005
para-Dichlorobenzene	0.075
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.2
cis-1,2-Dichloroethylene	0.07
1,2-Dichloropropane	0.005
Ethylbenzene	0.7
Monochlorobenzene	0.1
o-Dichlorobenzene	0.6
Styrene	0.1
Tetrachloroethylene	0.005

Contaminant	Maximum Contaminant Level (mg/L)
Toluene	1
trans-1,2-Dichloroethylene	0.1
Xylenes (total)	10
Dichloromethane	0.005
1,2,4-Trichlorobenzene	0.07
1,1,2-Trichloroethane	0.005

(~~2~~3) **Primary MCLs for Turbidity.** Turbidity – Treatment Technique Requirements:

(a) The maximum contaminant level for turbidity is determined by a treatment technique requirement as set forth in this ~~Section~~Rule.

(b) The treatment technique requirement for turbidity is applicable to both community water systems and non-community water systems using surface water sources or ground water sources under the direct influence of surface water in whole or in part. The treatment technique requirement for turbidity in drinking water, measured at a representative point(s) in the filtered water is:

1. Less than or equal to 0.3 turbidity unit in at least 95 percent of the monthly measurements. One turbidity unit is the maximum allowable level and must not be exceeded at any time.
2. Five turbidity units is the maximum allowable level and must not be exceeded at any time.
3. In accordance with 40 CFR § 141.73, the Division may allow higher turbidity levels for slow sand filtration, diatomaceous earth filtration, or other filtration technologies.
4. Beginning January 1, 2002, public water systems that use surface water or ground water under the direct influence of surface water and serve at least 10,000 people must meet the filtration requirements specified in 40 CFR § 141.173 (see Rule 391-3-5-.20(5)).
5. The Enhanced Filtration and Disinfection requirements specified in 40 CFR Part 141, Subpart P are applicable to Subpart H systems serving at least 10,000 people (see Rule 391-3-5- .20(8)).
6. Beginning January 14, 2005, public water systems that use surface water or ground water under the direct influence of surface water as a source and serve fewer than 10,000 people must meet the filtration and disinfection requirements in 40 CFR Part 141, Subpart T. This requirement is in addition to complying with requirements in Subpart H of 40 CFR Part 141 [see Rule 391-3-5-.20(8)].

(4) **Primary MCLs for Microbiologicals.** Microbiological - Maximum contaminant levels (MCLs) for microbiological contaminants.

(a) Until March 31, 2016, the total coliform ~~The~~ MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.

1. For a system ~~which~~that collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.

2. For a system ~~which~~that collects fewer than 40 samples per month, if no more than one sample collected during a month is total coliform-positive, the system is in compliance with the MCL for total coliforms.

(b) Until March 31, 2016, ~~A~~any fecal coliform-positive repeat sample or *E. coli*-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or *E. coli*-positive routine sample, constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in ~~Section~~Rule 391-3-5-.32, this is a violation that may pose an acute risk to health.

(c) Beginning April 1, 2016, a system is in compliance with the MCL for *E. coli* for samples taken under the provisions of Rule 391-3-5-.55 unless any of the conditions identified in paragraphs (4)(c)1. through (4)(c)4. occur. For purposes of the public notification requirements in Rule 391-3-5-.32, violation of the MCL may pose an acute risk to health.

1. The system has an *E. coli*-positive repeat sample following a total coliform-positive routine sample.

2. The system has a total coliform-positive repeat sample following an *E. coli*-positive routine sample.

3. The system fails to take all required repeat samples following an *E. coli*-positive routine sample.

4. The system fails to test for *E. coli* when any repeat sample tests positive for total coliform.

(~~c~~d) Until March 31, 2016, a~~A~~ public water system must determine compliance with the MCL for total coliforms in paragraphs (4)(a) and (4)(b) ~~of this subsection~~ for each month in which it is required to monitor for total coliforms. Beginning April 1, 2016, a public water system must determine compliance with the MCL for *E. coli* in paragraph (4)(c) for each month in which it is required to monitor for total coliforms.

(e) The EPA Administrator, pursuant to section 1412 of the federal Safe Drinking Water Act, identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant level for total coliforms in paragraphs (4)(a) and (4)(b) and for achieving compliance with the maximum contaminant level for *E. coli* in paragraph (4)(c):

1. Protection of wells from fecal contamination by appropriate placement and construction;

2. Maintenance of a disinfectant residual throughout the distribution system;

3. Proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, cross connection control, and continual maintenance of positive water pressure in all parts of the distribution system;

4. Filtration and/or disinfection of surface water, as described in 40 CFR Part 141 Subparts H, P, T, and W, or disinfection of ground water, as described in 40 CFR Part 141 Subpart S, using strong oxidants such as chlorine, chlorine dioxide, or ozone; and

5. For systems using ground water, compliance with the requirements of an EPA-approved Division Wellhead Protection Program developed and implemented under section 1428 of the federal Safe Drinking Water Act.

(f) The EPA Administrator, pursuant to section 1412 of the federal Safe Drinking Water Act, identifies the technology, treatment techniques, or other means available identified

in paragraph (4)(e) as affordable technology, treatment techniques, or other means available to systems serving 10,000 or fewer people for achieving compliance with the maximum contaminant level for total coliforms in paragraphs (4)(a) and (4)(b) and for achieving compliance with the maximum contaminant level for *E. coli* in paragraph (4)(c).

(5) **Primary MCLs for Radioactivity and Radionuclides.** Radioactivity - Maximum contaminant levels for Radium-226, Radium-228, gross alpha particle radioactivity, beta particle and photon radioactivity from man-made radionuclides in community water systems.

(a) The following are the maximum contaminant levels for Radium-226, Radium-228, gross alpha radioactivity, and Uranium:

Radionuclides / Radioactivity	**Maximum Contaminant Level**
Combined Radium-226 and Radium-228 (^{226} Ra, ^{228} Ra)	5 pCi/L
Gross alpha particle activity (including Radium-226 but excluding Radon and Uranium)	15 pCi/L
Uranium	30 µg/L

(b) The average annual concentration of beta particle and photon radioactivity from manmade radionuclides in drinking water shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem per year.

(c) Except for the radionuclides listed in Table A, the concentration of man-made radionuclides causing 4 mrem total body or organ dose equivalents shall be calculated on the basis of a 2 liter per day drinking water intake using the 168 hour data listed in "*Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air or Water for Occupational Exposure*", NBS Handbook 69 as amended August, 1963, U.S. Department of Commerce. If two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed 4 millirem per year.

TABLE A. — Average annual concentrations assumed for the purpose of this rule to produce a total body or organ dose of 4 millirem per year.

Radionuclide	**Critical Organ**	**Average Annual Concentration**
Tritium (^{3}H)	Total Body	20,000 pCi/L
Strontium-90 (^{90} Sr)	Bone Marrow	8 pCi/L

(6) **Primary MCLs for Trihalomethanes.** TRIHALOMETHANES - Maximum contaminant level for trihalomethanes: see ~~section~~paragraph (7), DISINFECTANTS and DISINFECTION BYPRODUCTS, below.

(7) **Primary MCLs for Disinfectants and Disinfection Byproducts.** DISINFECTANTS and DISINFECTION BYPRODUCTS (D/DBPs). Beginning January 1, 2002, this ~~section~~paragraph shall be applicable as specified below:

(a) The maximum contaminant levels (MCLs) for disinfection byproducts (DBPs) are as specified in ~~section~~ 40 CFR § 141.64 and the maximum residual disinfectant levels (MRDLs) are as specified in ~~section~~ 40 CFR § 141.65.

Disinfection Byproduct	**Maximum Contaminant Level (mg/L)**
Total trihalomethanes	0.080
Haloacetic acids (five)	0.060
Bromate	0.010
Chlorite	1.0

Disinfectant Residuals	**Maximum Residual Disinfectant Level (mg/L)**
Chlorine	4.0 (as Cl_2)
Chloramines	4.0 (as Cl_2)
Chlorine Dioxide	0.8 (as ClO_2)

(b) Beginning January 1, 2002, community and non-transient, non-community Subpart H water systems which serve a population of 10,000 people or more must comply with ~~this section~~paragraph (7). All systems must comply with these MCLs until the date specified for Subpart V compliance in 40 CFR § 141.620(c).

(c) Beginning January 1, 2004, community and non-transient, non-community Subpart H water systems serving fewer than 10,000 people and systems using only ground water not under the direct influence of surface water must comply with ~~this section~~paragraph (7). All systems must comply with these MCLs until the date specified for Subpart V compliance in 40 CFR § 141.620(c).

(d) The Subpart V MCLs for TTHM and HAA5 must be complied with as a locational running annual average at each monitoring location beginning the date specified for Subpart V compliance in 40 CFR § 141.620(c).

(e) A system that is installing granular activated carbon (GAC) or membrane technology to comply with ~~this section~~paragraph (7) may apply to the Division for an extension of up to 24 months past the dates in paragraphs (7)(b) and (7)(c) ~~of this section~~, but not beyond December 31, 2003.

(f) Transient non-community Subpart H water systems serving 10,000 or more persons and using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2002.

(g) Transient non-community Subpart H water systems serving fewer than 10,000 persons and using chlorine dioxide as a disinfectant or oxidant and systems using only ground water not under the direct influence of surface water and using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2004.

(h) The best technology, treatment technique, or other means available for achieving compliance with the maximum contaminant levels for disinfection byproducts identified in paragraph (7)(a) shall be in accordance with 40 CFR §§ 141.64 (a)(2) and (b)(2).
~~(h)~~**(8) Maximum Contamination Level Goals (MCLG).** The maximum contaminant level goals for organic contaminants, inorganic contaminants, and microbiological contaminants shall be in accordance with 40 CFR ~~Part~~§§ 141.50, 141.51, 141.52, 141.53, and 141.54.
~~(i) The best technology, treatment technique, or other means available for achieving compliance with the maximum contaminant levels for disinfection byproducts identified in Section 391-3-5-.18(7)(a) shall be in accordance with 40 CFR, Part 141.64 (b).~~

Authority: O.C.G.A. Sec. 12-5-170 *et seq.*

391-3-5-.23 Coliform Sampling. ~~Amended.~~

(1) **Routine Coliform Monitoring.**
(a) Public water systems must collect total coliform samples at sites which are representative of water throughout the distribution system according to a written sample siting plan. These plans are subject to Division review and revision.
(b) The minimum residential population of a community water system shall be determined by a mathematical calculation of the total number of active residential service connections multiplied by Georgia's average population per household, as published in the most recent Federal Census Bureau Statistics. Multiple residential units served by a single connection (master meter) shall be included in the determination of population for a water system. The minimum monitoring frequency for total coliforms for community water systems is based on the population served by the system, as follows:

Population Served	Minimum Number of Samples per Month
25 to 1,000[1]	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50

Population Served	Minimum Number of Samples per Month
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

[1]Includes public water systems which have at least 15 service connections, but serve fewer than 25 persons.

If a community water system serving 25 to 1,000 persons has no history of total coliform contamination in its current configuration and a sanitary survey conducted in the past five years shows that the system is supplied solely by a protected ground water source and is free of sanitary defects, the Division may reduce the monitoring frequency specified above, except that in no case shall it be reduced to less than one sample per quarter.

(c) The monitoring frequency for total coliform for non-community water systems is as follows:

1. A non-community water system using only ground water (except ground water under the direct influence of surface water) and serving 1,000 persons or fewer must monitor each calendar quarter that the system provides water to the public, except that the Division may adjust this monitoring frequency in writing, if a sanitary survey shows that the system is free of sanitary defects.

2. A non-community water system using only ground water (except ground water under the direct influence of surface water) and serving more than 1,000 persons during any month must monitor at the same frequency as a like-sized community water system, except that the Division may adjust this monitoring frequency, in writing for any month the system serves 1,000 persons or fewer.

3. A non-community water system using surface water, in total or in part, must monitor at the same frequency as a like-sized community water system, regardless of the number of persons it serves.

4. A non-community water system using ground water under the direct influence of surface water must monitor at the same frequency as a like-sized community water

system. The system must begin monitoring at this frequency beginning six months after the Division determines that the ground water is under the direct influence of surface water.

(d) The public water system must collect samples at regular time intervals throughout the month, except that a system which uses only ground water (except ground water under the direct influence of surface water), and serves 4,900 persons or fewer, may collect all required samples on a single day if they are taken from different sites.

(e) Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, shall not be used to determine compliance with the MCL for total coliforms. Repeat samples are not considered special purpose samples, and must be used to determine compliance with the MCL for total coliforms.

(2) **Repeat Coliform Monitoring.**

(a) If a routine sample is total coliform-positive, the public water system must collect a set of repeat samples within 24 hours of being notified of the positive result. A system which collects more than one routine sample per month must collect no fewer than three repeat samples for each total coliform-positive sample found. A system which normally collects one routine sample per month or fewer must collect no fewer than four repeat samples for each total coliform-positive sample found. The Division may extend the 24-hour limit on a case-by-case basis if the system has a logistical problem in collecting the repeat samples within 24 hours that is beyond its control.

(b) The system must collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or one away from the end of the distribution system, the Division may waive the requirement to collect at least one repeat sample upstream or downstream of the original sampling site.

(c) The system must collect all repeat samples on the same day, except that the Division may allow a system with a single service connection to collect the required set of repeat samples over a four-day period.

(d) If one or more repeat samples in the set is total coliform-positive, the public water system must collect an additional set of repeat samples in the manner specified in ~~this section~~paragraph (2). The additional samples must be collected within 24 hours of being notified of the positive result, unless the Division extends the limit as provided in ~~this section~~paragraph (2). The system must repeat this process until either total coliforms are not detected in one complete set of repeat samples or the system determines that the MCL for total coliforms has been exceeded and notifies the Division.

(e) If a system collecting fewer than five routine samples per month has one or more total coliform-positive samples and the Division does not invalidate the sample(s), it must collect at least five routine samples during the next month the system provides water to the public, except that the Division may waive this requirement if the conditions specified below are met. The Division cannot waive the requirement for a system to collect repeat samples.

1. The Division may waive the requirement to collect five routine samples the next month the system provides water to the public if the Division, or an agent approved by

the Division, performs a site visit before the end of the next month the system provides water to the public. Although a sanitary survey need not be performed, the site visit must be sufficiently detailed to allow the Division to determine whether additional monitoring and/or any corrective action is needed. The Division cannot approve an employee of the system to perform this site visit, even if the employee is an agent approved by the Division to perform sanitary surveys.

2. The Division may waive the requirement to collect five routine samples the next month the system provides water to the public if the Division has determined why the sample was total coliform-positive and establishes that the system has corrected the problem or will correct the problem before the end of the next month the system serves water to the public. The Division cannot waive the requirement to collect five routine samples the next month the system provides water to the public solely on the grounds that all repeat samples are total coliform-negative. Under this paragraph, a system must still take at least one routine sample before the end of the next month it serves water to the public and use it to determine compliance with the MCL for total coliforms, unless the Division has determined that the system has corrected the contamination problem before the system took the set of repeat samples required above, and all repeat samples were total coliform-negative.

(f) After a system collects a routine sample and before it learns the results of the analysis of that sample, if it collects another routine sample(s) from within five adjacent service connections of the initial sample, and the initial sample, after analysis, is found to contain total coliforms, then the system may count the subsequent sample(s) as a repeat sample instead of as a routine sample.

(g) Results of all routine and repeat samples not invalidated by the Division must be included in determining compliance with the MCL for total coliforms.

(3) **Invalidation of Total Coliform Samples.** A total coliform-positive sample invalidated under this paragraph does not count towards meeting the minimum monitoring requirements of this ~~Section~~Rule.

(a) The Division may invalidate a total coliform-positive sample only if the conditions that follow below are met:

1. The laboratory establishes that improper sample analysis caused the total coliform--positive result.

2. The Division, on the basis of the results of repeat samples collected as required by this ~~Section~~Rule, determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. The Division cannot invalidate a sample on the basis of repeat sample results unless all repeat sample(s) collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected within five service connections of the original tap are total coliform-negative (e.g., the Division cannot invalidate a total coliform-positive sample on the basis of repeat samples if all the repeat samples are total coliform-negative, or if the public water system has only one service connection).

3. The Division has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition which does not reflect water quality in the distribution system. In this case, the system must still collect all repeat samples required under this ~~Section~~Rule, and use them to determine compliance with the MCL for total coliforms.

The Division may not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total coliform-negative.

(~~c~~b) A laboratory must invalidate a total coliform sample (unless total coliforms are detected) if the sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined (e.g., the Multiple-Tube Fermentation Technique), produces a turbid culture in the absence of an acid reaction in the Presence-Absence (P-A) Coliform Test, or exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter (e.g., Membrane Filter Technique). If a laboratory invalidates a sample because of such interference, the system must collect another sample from the same location as the original sample within 24 hours of being notified of the interference problem, and have it analyzed for the presence of total coliforms. The system must continue to re-sample within 24 hours and have the samples analyzed until it obtains a valid result. The Division may waive the 24-hour time limit on a case-by-case basis.

(4) **Sanitary Surveys.**

(a) All ground water systems must undergo sanitary surveys no less frequently than every three years for community systems, except as provided in paragraph (4)(b) ~~of this section~~, and no less frequently than every five years for non-community systems. The initial sanitary survey for each community ground water system must be conducted by December 31, 2012, unless the system meets requirements of paragraph (4)(b) ~~of this section~~.

(b) For community ground water systems determined by the Division to have outstanding performance based on prior sanitary surveys, or that provide at least 4-log (99.99%) treatment of viruses (using inactivation, removal, or a combination of the two) subsequent sanitary surveys may be conducted no less than every five years. The initial sanitary survey for community systems that meet these requirements and for each non-community system must be conducted by December 31, 2014.

(c) All surface water systems (including ground water under the influence) must undergo sanitary surveys no less frequently than every three years for community systems and no less frequently than every five years for non-community systems. For community systems determined by the Division to have outstanding performance based on prior sanitary surveys, subsequent sanitary surveys may be conducted no less than every five years.

(d) Sanitary surveys must be performed by the Division or an agent approved by the Division. The system is responsible for ensuring the survey takes place.

(5) **Fecal Coliforms - *Escherichia coli* (*E. coli*) Testing.**

(a) If any routine or repeat sample is total coliform-positive, the system must analyze that total coliform-positive culture medium to determine if fecal coliforms are present, except that the system may test for *E. coli* in lieu of fecal coliforms. If fecal coliforms or *E. coli* are present, the system must notify the Division by the end of the day when the system is notified of the test result, unless the system is notified of the result after the Division office is closed, in which case the system must notify the Division before the end of the next business day.

(b) The Division has the discretion to allow a public water system, on a case-by-case basis, to forego fecal coliform or *E. coli* testing on a total coliform-positive sample if that system assumes that the total coliform-positive sample is fecal coliform-positive or *E.*

coli-positive. Accordingly, the system must notify the Division as specified in this ~~Section~~Rule and the MCL applies.

(6) **Analytical Methodology.**

(a) The standard sample volume required for total coliform analysis, regardless of analytical method used, is 100 mL.

(b) Public water systems need only determine the presence or absence of total coliforms; a determination of total coliform density is not required.

(c) Public water systems must conduct total coliform analyses in accordance with 40 CFR § 141.21.

(d) Public water systems must conduct fecal coliform analyses in accordance with 40 CFR § 141.21.

(7) **Response to Violation.**

(a) A public water system which has exceeded the MCL for total coliforms must report the violation to the Division no later than the end of the next business day after it learns of the violation, and notify the public in accordance with this chapter.

(b) A public water system which has failed to comply with a coliform monitoring requirement, including the sanitary survey requirement, must report the monitoring violation to the Division within ten days after the system discovers the violation, and notify the public in accordance with this chapter.

(8) The provisions of paragraph (1) and (4) of this Rule are applicable until March 31, 2016. The provisions of paragraphs (2), (3), (5), (6), and (7) of this Rule are applicable until all required repeat monitoring under paragraph (2) of this Rule and fecal coliform or *E. coli* testing under paragraph (5) of this Rule that was initiated by a total coliform-positive sample taken before April 1, 2016 is completed, as well as analytical method, reporting, recordkeeping, public notification, and consumer confidence report requirements associated with that monitoring and testing. Beginning April 1, 2016, the provisions of Rule 391-3-5-.55 are applicable, with systems required to begin regular monitoring at the same frequency as the system-specific frequency required on March 31, 2016.

Authority: O.C.G.A. Sec. 12-5-170 *et seq.*

391-3-5-.24 Disinfectant Residuals, Disinfection Byproducts ~~Sampling~~, and Disinfection Byproduct Precursors Sampling, Analytical and Other Requirements. ~~Amended.~~

(1) **Purpose.** The purpose of this Rule is to provide for the procedures for establishing maximum contaminant levels, monitoring and other requirements for trihalomethanes, disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors.

(2) **Variances.** Variances from the maximum contaminant level for total trihalomethanes shall be conducted in accordance with 40 CFR~~, Part~~ § 142.60.

(3) **Disinfectant Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors.**

(a) Community water systems and non-transient, non-community water systems which add a chemical disinfectant to the water in any part of the drinking water treatment process must modify their practices to meet MCLs and MRDLs specified in

subparagraph (7)(a) of Rule 391-3-5-.18, and must meet the treatment technique requirements for disinfection byproduct precursors specified in paragraph (10) ~~of this section~~.

(b) Transient non-community water systems that use chlorine dioxide as a disinfectant or oxidant must modify their practices to meet the MRDL for chlorine dioxide specified in subparagraph (7)(a) of Rule 391-3-5-.18.

(c) Community Subpart H water systems and non-transient, non-community Subpart H water systems must comply with the requirements of this ~~section~~Rule, as specified in ~~sub~~paragraphs (7)(b) and (7)(c) of Rule 391-3-5-.18, respectively.

(d) Beginning January 1, 2002, transient non-community Subpart H water systems serving 10,000 or more persons and using chlorine dioxide as a disinfectant or oxidant must comply with the requirements for chlorine dioxide and chlorite in this ~~section~~Rule.

(e) Beginning January 1, 2004, transient non-community Subpart H water systems serving fewer than 10,000 people and using chlorine dioxide as a disinfectant or oxidant and systems using only ground water not under the direct influence of surface water and using chlorine dioxide as a disinfectant or oxidant must comply with the requirements for chlorine dioxide and chlorite in this ~~section~~Rule.

(f) Systems may increase residual disinfectant levels in the distribution system of chlorine or chloramines (but not chlorine dioxide) to a level and for a time necessary to protect public health, to address specific microbiological contamination problems caused by circumstances such as, but not limited to, distribution line breaks, storm run-off events, source water contamination events, or cross-connection events.

(g) Systems must use the analytical method(s) specified in 40 CFR § 141.131 to demonstrate compliance with the requirements of this ~~section~~Rule. The analytical requirements specified in 40 CFR § 141.131, which is hereby incorporated by reference, are required to demonstrate compliance with the requirements of Subpart L (Disinfectant Residuals, Disinfection ByProducts, and Disinfection ByProduct Precursors), Subpart U (Initial Distribution System Evaluations), and Subpart V (Stage 2 Disinfection ByProducts Requirements) of 40 CFR Part 141.

(h) Monitoring Requirements. 40 CFR § 141.132, in its entirety, is hereby incorporated by reference. For compliance with the requirements of this ~~section~~Rule, the water systems must monitor the applicable parameters included in this ~~section~~Rule at the frequency specified in 40 CFR § 141.132. Failure to monitor will be treated as a violation for the entire period covered by the annual average where compliance is based on a running annual average of monthly or quarterly samples or averages and the system's failure to monitor makes it impossible to determine compliance with MCLs or MRDLs.

1. Systems must take all samples during normal operating conditions.
2. Systems may consider multiple wells drawing water from a single aquifer as one treatment plant for determining the minimum number of TTHM and HAA5 samples required, with the Division approval.
3. Systems may use only data collected under the provisions of this ~~section~~Rule to qualify for reduced monitoring.
4. Each system required to monitor under this ~~section~~Rule must develop and implement a monitoring plan. The plan must include at least the following elements: specific locations and schedules for collecting samples for any parameters included in this ~~section~~Rule; how the system will calculate compliance with MCLs, MRDLs, and

treatment techniques; and if approved for monitoring as a consecutive system, or if providing water to a consecutive system, the sampling plan must reflect the entire distribution system.

(i) The system must maintain the plan and make it available for inspection by the Division and the general public no later than thirty (30) days following applicable compliance dates stated in paragraph (3)(c) ~~of this section~~.

(ii) All Subpart H systems serving more than 3,300 people must submit a copy of the monitoring plan to the Division no later than the date of the first report required under 40 CFR § 141.134.

(iii) The Division may require a monitoring plan to be submitted by any other system. The Division may also require changes in any plan elements.

(4) **Monitoring and Compliance for Disinfection Byproducts.** Monitoring for disinfection byproducts shall be conducted as specified in ~~section~~ 40 CFR § 141.132(b). Compliance with the disinfection byproducts requirements shall be determined in accordance with ~~section~~ 40 CFR § 141.133(b).

(5) **Monitoring and Compliance for Disinfectant Residuals.**

(a) Monitoring for disinfectant residuals shall be conducted as specified in ~~section~~ 40 CFR § 141.132(c). Compliance with the disinfectant residuals requirements shall be determined in accordance with ~~section~~ 40 CFR § 141.133(c).

(b) *Routine monitoring*. Until March 31, 2016, community and non-transient non-community water systems that use chlorine or chloramines must measure the residual disinfectant level in the distribution system at the same point in the distribution system and at the same time as total coliforms are sampled, as specified in 40 CFR §141.21. Beginning April 1, 2016, community and non-transient non-community water systems that use chlorine or chloramines must measure the residual disinfectant level in the distribution system at the same point in the distribution system and at the same time as total coliforms are sampled, as specified in Rule 391-3-5-.55(4) through (8). Subpart H systems may use the results of residual disinfectant concentration sampling conducted under 40 CFR §141.74(c)(3)(i) for systems which filter, in lieu of taking separate samples.

(6) **Monitoring and Compliance for Disinfection Byproduct Precursors.** Monitoring for disinfection byproduct precursors shall be conducted as specified in ~~section~~ 40 CFR § 141.132(d). Compliance with the disinfection byproduct precursors requirements shall be determined in accordance with ~~section~~ 40 CFR § 141.133(c) and as specified by 40 CFR § 141.135(b).

(7) **Non-Compliance in First Monitoring Year.** If, during the first year of monitoring under 40 CFR § 141.132, any individual quarter's average will cause the running annual average of that system to exceed the MCL, the system shall be considered out of compliance at the end of that quarter.

(8) **Samples for Compliance Determination.** All samples taken and analyzed under the provisions of this ~~section~~Rule must be included in determining compliance, even if that number is greater than the minimum required. Compliance requirements specified in 40 CFR Part 141, Subpart L § 141.133 is hereby incorporated by reference.

(9) **Treatment Techniques.** Treatment techniques for control of disinfection byproduct precursors requirements specified in 40 CFR Part 141, Subpart L § 141.135 is hereby incorporated by reference.

(a) Subpart H systems using conventional filtration treatment (as defined in § 141.2) must operate with enhanced coagulation or enhanced softening to achieve the TOC percent removal levels specified in 40 CFR § 141.135(b) unless the system meets at least one of the alternative compliance criteria specified in 40 CFR §§ 141.135(a)(2) or (a)(3).
(b) Alternative compliance criteria for enhanced coagulation and enhanced softening systems: 40 CFR Part 141, Subpart L § 141.135(a)(2) is hereby incorporated by reference.
(c) Additional alternative compliance criteria for softening systems: 40 CFR Part 141, Subpart L, § 141.135(a)(3) is hereby incorporated by reference.
(d) Enhanced coagulation and enhanced softening performance requirements: 40 CFR Part 141, Subpart L § 141.135(b) is hereby incorporated by reference.
(e) Compliance calculations: 40 CFR Part 141, Subpart L § 141.135(c) is hereby incorporated by reference.
(f) Treatment technique requirements for disinfection byproduct precursors: 40 CFR Part 141, Subpart L § 141.135(d) is hereby incorporated by reference.
(g) Required additional health information: 40 CFR § 141.154 is hereby incorporated by reference.

Authority: O.C.G.A. Sec. 12-5-170 *et seq.*

391-3-5-.27 Monitoring Frequency and Analytical Methods for Radioactivity in Community Water Systems. ~~Amended.~~

(1) **Monitoring Requirements for Gross Alpha Particle Activity, Radium-226 and Radium-228.**
(a) Compliance with paragraph (5) of Rule 391-3-5-.18 shall be based on the analysis of an annual composite of four consecutive quarterly samples or the average of the analyses of four samples obtained at quarterly intervals.
1. A gross alpha particle activity measurement may be substituted for the required Radium-226 and Radium-228 analysis provided that the measured gross alpha particle activity does not exceed 5 pCi/L, at a confidence level of 95 percent (1.65 σ, where σ [sigma] is the standard deviation of the net counting rate of the sample). In localities where Radium-228 may be present in drinking water, Radium-226 and/or Radium-228 analyses are required when the gross alpha particle activity exceeds 2 pCi/L.
2. When the gross alpha particle activity exceeds 5 pCi/L, the same or an equivalent sample shall be analyzed for Radium-226. If the concentration of Radium-226 exceeds 3 pCi/L the same or an equivalent sample shall be analyzed for Radium-228.
(b) The initial analysis required by subparagraph (1)(a) of this section for new water systems shall be completed within two years from the effective date of the permit to operate.
(c) Suppliers of water shall monitor at least once every four years following the procedure required by subparagraph (1)(a) of this Section. At the discretion of the Director when an annual record taken in conformance with subparagraph (1)(a) of this Section has established that the average annual concentration is less than half the maximum contaminant levels established by paragraph (6) of Section 391-3-5-.18,

analysis of a single sample may be substituted for the quarterly sampling procedure required by subparagraph (1)(a) of this Section.

1. More frequent monitoring shall be conducted when ordered by the Director in the vicinity of mining or other operations which may contribute alpha particle radioactivity to either surface or ground water sources of drinking water.

2. A supplier of water shall monitor in conformance with subparagraph (1)(a) of this Section within one year of the introduction of a new water source for a community water system. More frequent monitoring shall be conducted when ordered by the Director in the event of possible contamination or when changes in the distribution system or treatment process occur which may increase the concentration of radioactivity in drinking water.

3. A community water system using two or more sources having different concentrations of radioactivity shall monitor each source of water, in addition to water from a free flowing drinking water tap, when ordered by the Director.

4. Monitoring for compliance with paragraph (5) of Section 391-3-5-.18 after the initial period need not include Radium-228 except when required by the Director provided, that the average annual concentration of Radium-228 has been assayed at least once using the quarterly sampling procedure required by subparagraph (l)(a) of this Section.

5. Suppliers of water shall conduct annual monitoring of any community water system in which the Radium-228 concentration exceeds 3 pCi/L, as ordered by the Director.

(d) If the average annual maximum contaminant level for gross alpha particle activity or total radium as set forth in paragraph (5) of Section 391-3-5-.18 is exceeded, the supplier of a community water system shall give notice to the Division pursuant to Section 391-3-5-.30 and notify the public pursuant to Section 391-3-5-.32. Monitoring at quarterly intervals shall be continued until the annual average concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a permit, variance, exemption or enforcement action shall become effective.

(2) **Monitoring Requirements for Man-made Radioactivity in Community Water Systems.**

(a) Within two years following June 24, 1977 systems using surface water sources and serving more than 100,000 persons and such other community water systems as are designated by the Division shall be monitored for compliance with paragraph (5) of Section 391- 3-5-.18 by analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples. Compliance with paragraph (5) of Section 391-3-5-.18 may be assumed without further analysis if the average annual concentrations of tritium and strontium- 90 are less than those listed in Table A, provided, that in no case shall the sum of their annual dose equivalents to bone marrow exceed 4 milligrams per year.

1. If the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with paragraph (5) of Section 391-3-5-.18.

2. Suppliers of water shall conduct additional monitoring, as ordered by the Director, to determine the concentration of man-made radioactivity in principal watersheds designated by the Division.

3. At the discretion of the Director suppliers of water utilizing only ground waters may be required to monitor for man-made radioactivity.

(b) After the initial analysis required by subparagraph (2)(a) of this Section suppliers of water shall monitor at least every four years following the procedure given in subparagraph (2)(a) of this Section.
(c) Within two years of June 24, 1977 the supplier of any community water system designated by the Division as utilizing waters contaminated by effluents from nuclear facilities shall initiate quarterly monitoring for gross beta particle and iodine-131 radioactivity and annual monitoring for strontium-90 and tritium.
1. Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples or the analysis of a composite of three monthly samples. The former is recommended. If the gross beta particle activity in a sample exceeds 15 pCi/L, the same or an equivalent sample shall be analyzed for strontium-89 and cesium-134. If the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with paragraph (5) of Section 391-3-5-.18.
2. For iodine-131, a composite of five consecutive daily samples shall be analyzed once each quarter. As ordered by the Director, more frequent monitoring shall be conducted when iodine-131 is identified in the drinking water.
3. Annual monitoring for strontium-90 and tritium shall be conducted by means of the analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples. The latter procedure is recommended.
4. The Division may allow the substitution of environmental surveillance data taken in conjunction with a nuclear facility for direct monitoring of man-made radioactivity by the supplier of water where the Division determines such data is applicable to a particular community water system.
(e<u>d</u>) If the average annual maximum contaminant level for manmade radioactivity set forth in paragraph (5) of Section 391-3-5-.18 is exceeded, the operator of a community water system shall give notice to the Division pursuant to Section 391-3-5-.30 and to the public as required by Section 391-3-5-.32. Monitoring at monthly intervals shall be continued until the concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a permit, variance, exemption or enforcement action shall become effective.
(3) **Sample Collection and Analysis.** Upon written direction of the Director the supplier shall collect and submit drinking water samples for analysis in accordance with the schedule furnished.
(4) **Analytical Methods.** Analytical methods for measurement of radioactivity shall be in accordance with 40 CFR, Part 141.25.
(5) **Monitoring Requirements Effective December 7, 2003.** All existing community water systems (CWSs) must conduct initial monitoring to determine compliance with this section between December 7, 2003 and December 31, 2007. CWSs must sample each entry point to the distribution system for four consecutive quarters.
(6) **New Sources.** All new CWSs or CWSs that use a new source of water shall begin to conduct initial monitoring within the first quarter after initiating use of the source.
(7) **Initial Monitoring Waiver.** For gross alpha particle activity, uranium, radium-226, and radium-228 monitoring, the Division may waive the final two quarters of initial monitoring for a sampling point if the results of the samples from the previous two

quarters are below the detection limit.

(8) **Initial Monitoring Above MCL.** If the average of the initial monitoring results for a sampling point is above the MCL, the system must collect and analyze quarterly samples at the sampling point until the system has results from four consecutive quarters that are at or below the MCL, unless the system enters into another schedule as part of a formal compliance agreement with the Division.

(9) **Reduced Monitoring.** The Division may allow community water systems to reduce the future frequency of monitoring from one every three years to once every six or nine years at each sampling point, based on the following criteria:

(a) If the average of the initial monitoring results for each contaminant (i.e., gross alpha particle activity, uranium, radium-226, or radium- 228) is below the detection limit specified in Table B, in Sec. 141.25(c)(1), the system must collect and analyze for that contaminant using at least one sample at the sampling point every nine years.

(b) For gross alpha particle activity and uranium, if the average of the initial monitoring results for each contaminant is at or above the detection limit but at or below half (1/2) the MCL, the system must collect and analyze for that contaminant using at least one sample at that sampling point every six years. For combined radium-226 and radium-228, the analytical results must be combined. If the average of the combined initial monitoring results for radium-226 and radium-228 is at or above the detection limit but at or below half (1/2) the MCL, the system must collect and analyze for that contaminant using at least one sample at that sampling point every six years.

(c) For gross alpha particle activity and uranium, if the average of the initial monitoring results for each contaminant is above half (1/2) the MCL but at or below the MCL, the system must collect and analyze at least one sample at that sampling point every three years. For combined radium-226 and radium-228, the analytical results must be combined. If the average of the combined initial monitoring results for radium-226 and radium-228 is above half (1/2) the MCL but at or below the MCL, the system must collect and analyze at least one sample at that sampling point every three years.

(d) Systems must use the samples collected during the reduced monitoring period to determine the monitoring frequency for subsequent monitoring periods, (e.g., if a system's sampling point is on a nine year monitoring period, and the sample result is above half (1/2) MCL, then the next monitoring period for that sampling point is three years).

(e) If a system has a monitoring result that exceeds the MCL while on reduced monitoring, the system must collect and analyze quarterly samples at that sampling point until the system has results from four consecutive quarters that are below the MCL, unless the system enters into another schedule as part of a formal compliance agreement with the Division.

(10) **Compositing.** To fulfill quarterly monitoring requirements for gross alpha particle activity, radium-226, radium-228, or uranium, a system may composite up to four consecutive quarterly samples from a single entry point if analysis is done within a year of the first sample. The Division will treat analytical results from the composited as the average analytical result to determine compliance with the MCLs and the future monitoring frequency. If the analytical result from the composited sample is greater than

half (1/2) MCL, the Division may direct the system to take additional quarterly samples before allowing the system to sample under a reduced monitoring schedule.

(11) **Gross Alpha Particle Activity.** A gross alpha particle activity measurement may be substituted for the required radium-226 measurement provided that the measured gross alpha particle activity does not exceed 5 pCi/L. A gross alpha particle activity measurement may be substituted for the required uranium measurement provided that the measured gross alpha particle activity does not exceed 15 pCi/L.

(12) **Monitoring and Compliance Requirements for Beta Particle and Photon Radioactivity.** To determine compliance with the maximum contaminant levels in CFR Sec. 141.66(d) for beta particle and photon radioactivity, a system must monitor at a frequency as follows:

(a) Community water systems (both surface and ground water) designated by the Division as vulnerable must sample for beta particle and photon radioactivity. Systems must collect quarterly samples for both beta emitters and annual samples for tritium and strontium-90 at each entry point to the distribution system (hereafter called a sampling point), beginning within one quarter after being notified by the Division. Systems already designated by the Division must continue to sample until the Division reviews and either reaffirms or removes the designation.

1. If the gross beta particle activity minus the naturally occurring potassium-40 beta particle activity at a sampling point has a running annual average (computed quarterly) less than or equal to 50 pCi/L (screening level), the Division may reduce the frequency of monitoring at that sampling point to once every 3 years. Systems must collect all samples required in paragraph (b)(1) of this section during the reduced monitoring period.

2. For systems in the vicinity of a nuclear facility, the Division may allow the CWS to utilize environmental surveillance data collected by the nuclear facility in lieu of monitoring at the system's entry point(s), where the Division determines if such data is applicable to a particular water system. In the event that there is a release from a nuclear facility, systems which are using surveillance data must begin monitoring at the community water system's entry point(s) in accordance with paragraph (b)(1) of this section.

(b) Community water systems (both surface and ground water) designated by the Division as utilizing waters contaminated by effluents from nuclear facilities must sample for beta particle and photon radioactivity. Systems must collect quarterly samples for beta emitters and iodine-131 and annual samples for tritium and strontium-90 at each entry point to the distribution system (hereafter called a sampling point), beginning within one quarter after being notified by the Division. Systems already designated by the Division as systems using waters contaminated by effluents from nuclear facilities must continue to sample until the Division reviews and either reaffirms or removes the designation.

1. Quarterly monitoring for gross beta particle activity shall be
based on the analysis of monthly samples or the analysis of a composite of three monthly samples. The former is recommended.

2. For iodine-131, a composite of five consecutive daily samples
shall be analyzed once each quarter. As ordered by the Division, more frequent monitoring shall be conducted when iodine-131 is identified in the finished water.

3. Annual monitoring for strontium-90 and tritium shall be conducted by means of the analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples. The latter procedure is recommended.

4. If the gross beta particle activity beta minus the naturally occurring potassium-40 beta particle activity at a sampling point has a running annual average (computed quarterly) less than or equal to 15 pCi/L, the Division may reduce the frequency of monitoring at that sampling point to every 3 years. Systems must collect all samples required in paragraph (b)(2) of this section during the reduced monitoring period.

5. For systems in the vicinity of a nuclear facility, the Division may allow the CWS to utilize environmental surveillance data collected by the nuclear facility in lieu of monitoring at the system's entry point(s), where the Division determines if such data is applicable to a particular water system. In the event that there is a release from a nuclear facility, systems which are using surveillance data must begin monitoring at the community water system's entry point(s) in accordance with paragraph (b)(2) of this section.

(c) Community water systems designated by the Division to monitor for beta particle activity and photon radioactivity cannot apply to the Division for a waiver from the monitoring frequencies specified in paragraphs (b)(1) or (b)(2) of this section.

(d) Community water systems may analyze for naturally occurring potassium-40 beta particle activity from the same or equivalent sample used for the gross beta particle activity analysis. Systems are allowed to subtract the potassium-40 beta particle activity value from the total gross beta particle activity value to determine if the screening level is exceeded. The potassium-40 beta particle activity must be calculated by multiplying elemental potassium concentrations (in mg/L) by a factor of 0.82.

(e) If the gross beta particle activity minus the naturally occurring potassium-40 beta particle activity exceeds the screening level, an analysis of the sample must be performed to identify the major radioactive constituents present in the sample and the appropriate doses must be calculated and summed to determine compliance with Sec. 141.66(d)(1), using the formula in Sec. 141.66(d)(2). Doses must also be calculated and combined for measured levels of tritium and strontium to determine compliance.

(13) **Monthly Sampling.** Systems must monitor monthly at the sampling point(s) which exceed the maximum contaminant level in Sec. 141.66(d) beginning the month after the exceedance occurs. Systems must continue monthly monitoring until the system has established, by a rolling average of 3 monthly samples, that the MCL is being met. Systems who establish that the MCL is being met must return to quarterly monitoring until they meet the requirements set forth in paragraph (b)(1)(ii) or (b)(2)(i) of this section.

(14) **Running Annual Average.** For systems monitoring more than once per year, compliance with the MCL is determined by a running annual average at each sampling point. If the average of any sampling point is greater than the MCL, then the system is out of compliance with the MCL.

(15) **Exceeding MCL.** For systems monitoring more than once per year, if any sample result will cause the running average to exceed the MCL at any sample point, the system is out of compliance with the MCL immediately.

(16) **Running Annual Average Calculation.** If a system does not collect all required

samples when compliance is based on a running annual average of quarterly samples, compliance will be based on the running average of the samples collected.
(17) **Detection Limit and Running Annual Average Calculation.** If a sample result is less than the detection limit, zero will be used to calculate the annual average, unless a gross alpha particle activity is being used in lieu of radium-226 and/or uranium. If the gross alpha particle activity result is less than detection, half (1/2) the detection limit will be used to calculate the annual average.
(18) **MCLGs**. The Maximum Contaminant Level Goal (MCLG) for Combined radium-226 and radium-228, Gross alpha particle activity, Beta particle and photon radioactivity, and uranium is zero.
(19) **MCLs.** The Maximum Contaminant Level (MCL) for radioactive particles is as follows:
(a) MCL for combined radium-226 and radium-228. The maximum contaminant level for combined radium-226 and radium-228 is 5 pCi/L. The combined radium-226 and radium-228 value is determined by the addition of the results of the analysis for radium-226 and the analysis for radium-228.
(b) MCL for gross alpha particle activity (excluding radon and uranium). The maximum contaminant level for gross alpha particle activity (including radium-226 but excluding radon and uranium) is 15 pCi/L.
(c) MCL for beta particle and photon radioactivity. The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water must not produce an annual dose equivalent to the total body or any internal organ greater than four millirem per year (4 mrem/yr).
(d) MCL for uranium. The maximum contaminant level for uranium is 30 µg/L.

Authority: O.C.G.A. Sec. 12-5-170 *et seq.*

391-3-5-.33 Variances and Exemptions. ~~Amended.~~

(1) Variances and exemptions from certain provisions of these regulations may be granted by the Director pursuant to O.C.G.A. Sec. 12-5-178 and 40 CFR § 141.4 and in the case of arsenic, 40 CFR § 142.20(b).
(2) Variances or exemptions from the MCLs for total coliforms and *E. coli* and variances from any of the treatment technique requirements of Subpart H systems may not be granted. As provided in 40 CFR § 142.304(a), small systems variances are not available for rules addressing microbial contaminants, which would include 40 CFR Part 141 Subparts H, P, S, T, W, and Y.
(3) EPA has stayed the effective date relating to the total coliform MCL of Rule 391-3-5-.18(4)(a) for systems that demonstrate to the Division that the violation of the total coliform MCL is due to a persistent growth of total coliforms in the distribution system rather than fecal or pathogenic contamination, a treatment lapse or deficiency, or a problem in the operation or maintenance of the distribution system. This is stayed until March 31, 2016, at which time the total coliform MCL is no longer effective.

Authority: O.C.G.A. Sec. 12-5-170 *et seq.*

391-3-5-.41 Consumer Confidence Reports. ~~Amended.~~

(1) **Purpose and Applicability.** 40 CFR Part 141, Subpart O § 141.151 is hereby incorporated by reference.
(2) **Effective Dates.**
(a) Each existing community water system must deliver to all its customers its first report by October 19, 1999, its second report by July 1, 2000, and subsequent reports by July 1 annually thereafter. The first report must contain data collected during, or prior to, calendar year 1998 as prescribed in 40 CFR Part 141, Subpart O § 141.153(d)(3). Each report thereafter must contain data collected during, or prior to, the previous calendar year.
(b) A new community water system must deliver to all its customers its first report by July 1 of the year after its first full calendar year in operation and annually thereafter.
(c) A community water system that sells water to another community water system must deliver the applicable information required in 40 CFR Part 141, Subpart O § 141.153 to the buyer system:
1. No later than April 19, 1999, by April 1, 2000, and by April 1 annually thereafter or
2. On a date mutually agreed upon by the seller and the purchaser, and specifically included in a contract between the parties.
(3.) **Content of the reports:** 40 CFR Part 141, Subpart O § 141.153 is hereby incorporated by reference.
(4.) **Required additional health information:** 40 CFR Part 141, Subpart O § 141.154 is hereby incorporated by reference.
(5.) **Report delivery and recordkeeping:** 40 CFR Part 141, Subpart O § 141.155 is hereby incorporated by reference.
(6.) Appendix A to Subpart O of 40 CFR Part 141 — Regulated Contaminants is hereby incorporated by reference.
~~7. Regulated Contaminants: Appendix B to 40 CFR, Subpart O is hereby incorporated by reference.~~
~~8. Health Effects Language: Appendix C to 40 CFR, Subpart O is hereby incorporated by reference.~~
(~~3~~7) **Electronic Delivery.**
(a) Community water systems may provide Consumer Confidence Reports electronically provided that:
1. The manner of the electronic delivery is a direct communication link, without use of an intermediary service;
2. There is an explanatory notice that accompanies the direct communication link;
3. The entire content of the Consumer Confidence Report is accessible;
4. The community water system shall provide the Consumer Confidence Report through another method should the community water system become aware of a customer's inability to receive the Consumer Confidence Report by the chosen electronic delivery method.

Authority: O.C.G.A. Sec. 12-5-170 *et seq.*

391-3-5-.52 Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR).

(1) **Purpose.** The purpose of the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) is to reduce illness linked with the contaminant *Cryptosporidium* and other disease-causing microorganisms in drinking water. The rule supplements existing regulations by targeting additional *Cryptosporidium* treatment requirements to higher risk systems. This rule also contains provisions to reduce risks from uncovered finished water reservoirs and to ensure that systems maintain microbial protection when they take steps to decrease the formation of disinfection byproducts that result from chemical water treatment.

(2) **Applicability.** This regulation applies to all public water systems that use surface water or ground water under the direct influence (GWUDI) of surface water.

(3) **Enhanced Treatment for *Cryptosporidium* – Subpart W.**

(a) General requirements. The requirements of this Subpart W are national primary drinking water regulations. The regulations in this subpart establish or extend treatment technique requirements in lieu of maximum contaminant levels for *Cryptosporidium.* These requirements are in addition to requirements for filtration and disinfection in subparts H, P, and T of this part.

(b) Applicability. The requirements of this subpart apply to all subpart H systems, which are public water systems supplied by a surface water source and public water systems supplied by a ground water source under the direct influence of surface water.

1. Wholesale systems, as defined in 40 CFR § 141.2, must comply with the requirements of this subpart based on the population of the largest system in the combined distribution system.

2. The requirements of this subpart for filtered systems apply to systems required by National Primary Drinking Water Regulations to provide filtration treatment, whether or not the system is currently operating a filtration system.

3. The requirements of this subpart for unfiltered systems apply only to unfiltered systems that timely met and continue to meet the filtration avoidance criteria in subparts H, P, and T of this part, as applicable.

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

1. Systems must conduct an initial and a second round of source water monitoring for each plant that treats a surface water or GWUDI source. This monitoring may include sampling for *Cryptosporidium, E. coli,* and turbidity as described in 40 CFR §§ 141.701 through 141.706, to determine what level, if any, of additional *Cryptosporidium* treatment they must provide.

2. Systems that plan to make a significant change to their disinfection practice must develop disinfection profiles and calculate disinfection benchmarks, as described in 40 CFR §§ 141.708 through 141.709.

3. Filtered systems must determine their *Cryptosporidium* treatment bin classification as described in 40 CFR § 141.710 and provide additional treatment for *Cryptosporidium,* if required, as described in 40 CFR § 141.711. All unfiltered systems must provide treatment for *Cryptosporidium* as described in 40 CFR § 141.712. Filtered and unfiltered systems must implement *Cryptosporidium* treatment according to the schedule in 40 CFR § 141.713.

4. Systems with uncovered finished water storage facilities must comply with the requirements to cover the facility or treat the discharge from the facility as described in 40 CFR § 141.714.
5. Systems required to provide additional treatment for *Cryptosporidium* must implement microbial toolbox options that are designed and operated as described in 40 CFR §§ 141.715 through 141.720.
6. Systems must comply with the applicable recordkeeping and reporting requirements described in 40 CFR §§ 141.721 through 141.722.
7. Systems must address significant deficiencies identified in sanitary surveys performed by EPA or Division as described in 40 CFR § 141.723.

(4) **Source Water Monitoring.** 40 CFR, Subpart W § 141.701(a) through (h), in its entirety, is hereby incorporated by reference. Systems are required to conduct source water monitoring for *Cryptosporidium, E. coli,* and turbidity in accordance with the monitoring schedule specified in this section.

(5) **Sampling Schedules.** 40 CFR, Subpart W § 141.702(a) through (c), in its entirety, is hereby incorporated by reference. Systems required to conduct source water monitoring under 40 CFR § 141.701 must submit a sampling schedule that specifies the calendar dates when the system will collect each required sample.

(6) **Sampling Locations.** 40 CFR, Subpart W § 141.703(a) through (f), in its entirety, is hereby incorporated by reference. Systems required to conduct source water monitoring under 40 CFR § 141.701 must collect samples for each plant that treats a surface water or GWUDI source. Where multiple plants draw water from the same influent, such as the same pipe or intake, the Division may approve one set of monitoring results to be used to satisfy the requirements of 40 CFR § 141.701 for all plants. Systems must collect source water samples prior to chemical treatment, such as coagulants, oxidants and disinfectants, unless the Division determines that collecting a sample prior to chemical treatment is not feasible for the system and that the chemical treatment is unlikely to have a significant adverse effect on the analysis of the sample.

(7) **Analytical Methods.** 40 CFR, Subpart W § 141.704(a) through (c), in its entirety, is hereby incorporated by reference.

(8) **Approved Laboratories.** 40 CFR, Subpart W § 141.705(a) through (c), in its entirety, is hereby incorporated by reference.

(9) **Reporting Source Water Monitoring Results.** 40 CFR, Subpart W § 141.706(a) through (e), in its entirety, is hereby incorporated by reference.

(10) **Grandfathering Previously Collected Data.** 40 CFR, Subpart W § 141.707(a) through (h), in its entirety, is hereby incorporated by reference. Systems may comply with the initial source water monitoring requirements of 40 CFR § 141.701(a) by grandfathering sample results collected before the system is required to begin monitoring (i.e., previously collected data). To be grandfathered, the sample results and analysis must meet the criteria in this section and the Division must approve.

(11) **Requirements when Making a Significant Change in Disinfection Practice.** 40 CFR, Subpart W § 141.708(a) through (b), in its entirety, is hereby incorporated by reference. Following the completion of initial source water monitoring under 40 CFR § 141.701(a), a system that plans to make a significant change to its disinfection practice, as defined in this section, must calculate disinfection benchmarks for *Giardia lamblia* and viruses as described in 40 CFR § 141.709. Prior to changing the disinfection practice,

the system must notify the Division and must include in this notice the information outlined in this section. Significant changes to disinfection practice are defined as follows:

(a) Changes to the point of disinfection;

(b) Changes to the disinfectant(s) used in the treatment plant;

(c) Changes to the disinfection process; or

(d) Any other modification identified by the State as a significant change to disinfection practice.

(12) **Developing the Disinfection Profile and Benchmark.** 40 CFR, Subpart W § 141.709(a) through (e), in its entirety, is hereby incorporated by reference. Systems required to develop disinfection profiles under 40 CFR § 141.708 must follow the requirements of this section. Systems must monitor at least weekly for a period of 12 consecutive months to determine the total log inactivation for *Giardia lamblia* and viruses. The disinfection benchmark is the lowest monthly mean value (for systems with one year of profiling data) or the mean of the lowest monthly mean values (for systems with more than one year of profiling data) of *Giardia lamblia* and virus log inactivation in each year of profiling data.

(13) **Bin Classification for Filtered Systems.** 40 CFR, Subpart W § 141.710(a) through (f), in its entirety, is hereby incorporated by reference. Following completion of the initial round of source water monitoring required under 40 CFR § 141.701(a), filtered systems must calculate an initial *Cryptosporidium* bin concentration for each plant for which monitoring was required. Calculation of the bin concentration must use the *Cryptosporidium* results reported under 40 CFR § 141.701(a) and must follow the procedures outlined in this section.

(a) Filtered systems must determine their initial bin classification from the table in 40 CFR 141.710(c) and using the *Cryptosporidium* bin concentration calculated under paragraphs (a)–(b) of this section (40 CFR, Subpart W § 141.710).

(b) Following completion of the second round of source water monitoring required under 40 CFR § 141.701(b), filtered systems must recalculate their *Cryptosporidium* bin concentration using the *Cryptosporidium* results reported under 40 CFR § 141.701(b) and following the procedures in paragraphs (b)(1) through (4) of 40 CFR § 141.710. Systems must then redetermine their bin classification using this bin concentration and the table in paragraph (c) of 40 CFR § 141.710.

(14) **Filtered System Additional *Cryptosporidium* Treatment Requirements.** 40 CFR, Subpart W § 141.711(a) through (d), in its entirety, is hereby incorporated by reference. Filtered systems must provide the level of additional treatment for *Cryptosporidium* specified in paragraph (a) of 40 CFR § 141.711 based on their bin classification as determined under 40 CFR § 141.710 and according to the schedule in 40 CFR § 141.713.

(a) Filtered systems must use one or more of the treatment and management options listed in 40 CFR § 141.715, termed the microbial toolbox, to comply with the additional *Cryptosporidium* treatment required in paragraph (a) of 40 CFR § 141.711.

(b) Systems classified in Bin 3 and Bin 4 must achieve at least 1-log of the additional *Cryptosporidium* treatment required under paragraph (a) of 40 CFR § 141.711 using either one or a combination of the following: bag filters, bank filtration, cartridge filters, chlorine dioxide, membranes, ozone, or UV, as described in 40 CFR §§ 141.716

through 141.720.
(c) Failure by a system in any month to achieve treatment credit by meeting criteria in §§ 141.716 through 141.720 for microbial toolbox options that is at least equal to the level of treatment required in paragraph (a) of 40 CFR § 141.711 is a violation of the treatment technique requirement.
(15) **Unfiltered System *Cryptosporidium* Treatment Requirements.** All systems that are using surface water sources or groundwater sources that are determined to be under the direct influence of surface water supplies are required to provide filtration and disinfection treatments, in addition to that other treatments that are required by the Division, in order to comply with the drinking water standards, regulations and operating permit conditions, required by the Rules for Safe Drinking Water, Chapter 391-3-5. In order to provide regulatory information on the *Cryptosporidium* treatment requirements for unfiltered water systems, 40 CFR, Subpart W § 141.712(a) through (d) is hereby incorporated by reference.
(16) **Schedule for Compliance with *Cryptosporidium* Treatment Requirements.**
(a) Following initial bin classification under 40 CFR § 141.710(c), filtered systems must provide the level of treatment for *Cryptosporidium* required under 40 CFR § 141.711 according to the schedule in paragraph (c) of this section.
(b) Following initial determination of the mean *Cryptosporidium* level under 40 CFR § 141.712(a)(1), unfiltered systems must provide the level of treatment for *Cryptosporidium* required under 40 CFR § 141.712 according to the schedule in paragraph (c) of this section.
(c) *Cryptosporidium* treatment compliance dates.

CRYPTOSPORIDIUM TREATMENT COMPLIANCE DATES TABLE

Systems that serve ...	**Must comply with Cryptosporidium treatment requirements no later than ... (1)**
At least 100,000 people.	April 1, 2012
From 50,000 to 99,999 people.	October 1, 2012
From 10,000 to 49,999 people.	October 1, 2013
Fewer than 10,000 people.	October 1, 2014

Note: (1) States may allow up to an additional two years for complying with the treatment requirement for systems making capital improvements.

(d) If the bin classification for a filtered system changes following the second round of source water monitoring, as determined under 40 CFR § 141.710(d), the system must provide the level of treatment for *Cryptosporidium* required under 40 CFR § 141.711 on a schedule the Division approves.
(e) If the mean *Cryptosporidium* level for an unfiltered system changes following the second round of monitoring, as determined under 40 CFR § 141.712(a)(2), and if the system must provide a different level of *Cryptosporidium* treatment under 40 CFR § 141.712 due to this change, the system must meet this treatment requirement on a

schedule the Division approves.
(17) **Requirements for Uncovered Finished Water Storage Facilities.** All finished water storage facilities must be provided with a permanent cover, in accordance with Section 391-3-5-.11 of the rules. In order to provide regulatory information on the requirements for uncovered finished water storage facilities, 40 CFR, Subpart W § 141.714(a) through (d) is hereby incorporated by reference. Microbial toolbox options for meeting *Cryptosporidium* treatment requirements. 40 CFR, Subpart W § 141.715(a) through (b) is hereby incorporated by reference.
(a) Source toolbox components. 40 CFR, Subpart W § 141.716(a) through (b) is hereby incorporated by reference.
(b) Pre-filtration treatment toolbox components. 40 CFR, Subpart W § 141.717(a) through (c) is hereby incorporated by reference.
(c) Treatment performance toolbox components. 40 CFR, Subpart W § 141.718(a) through (c) is hereby incorporated by reference.
(d) Additional filtration toolbox components. 40 CFR, Subpart W § 141.719(a) through (d) is hereby incorporated by reference.
(e) Inactivation toolbox components. 40 CFR, Subpart W § 141.720(a) through (d) is hereby incorporated by reference.
(~~19~~18) **Reporting Requirements.** 40 CFR, Subpart W § 141.721(a) through (f) is hereby incorporated by reference.
(~~20~~19) **Recordkeeping Requirements.** 40 CFR, Subpart W § 141.722(a) through (c) is hereby incorporated by reference.
(~~21~~20) **Requirements to Respond to Significant Deficiencies Identified in Sanitary Surveys Performed by EPA or Division.** 40 CFR, Subpart W § 141.723(a) through (d) is hereby incorporated by reference. Systems must respond in writing to significant deficiencies identified in sanitary survey reports no later than forty-five (45) days after receipt of the report, indicating how and on what schedule the system will address significant deficiencies noted in the survey. Systems must correct significant deficiencies identified in sanitary survey reports according to the approved schedule, or if there is no approved schedule, according to the schedule submitted by the system if such deficiencies are within the control of the system.
(~~22~~21) **Division Recordkeeping.** The records kept by the Division shall be in accordance with 40 CFR § 142.14.
(~~23~~22) **Division Reporting.** The reporting by the Division shall be performed as required by 40 CFR § 142.15.

Authority: O.C.G.A. Sec. 12-5-170 *et seq.*

391-3-5-.54 Ground Water Rule.

Purpose. The United States Environmental Protection Agency established the Ground Water Rule, which the Division has adopted, to provide increased protection against microbial pathogens in public water systems that use ground_water as the source of drinking water.
(1) **General Requirements and Applicability.** 40 CFR Part 141, Subpart S §141.400 is hereby incorporated by reference.

(a) This Rule applies to the following:
1. Systems relying totally on ground_water; purchased water systems or consecutive systems receiving ground_water;
2. Mixed surface and ground_water systems where ~~untreated~~ ground_water is added directly to the distribution system or to the treated surface water prior to entry into the distribution system.
(b) Hydrogeologic Sensitivity Assessments.
1. Hydrogeologically sensitive settings include Karst (carbonate rock, i.e. limestone and dolostone), fractured bedrock and gravel.
2. Drinking water produced by water systems from aquifers consisting of the above geologic materials require hydrogeologic sensitivity assessments prepared by the Division.
3. The information that the Division requires to prepare a hydrogeologic sensitivity assessment may be requested by the Division from the water source's owner and/or found in one or all of three regulatory reports approved by the EPA:
(i) A water source's Well Head Protection Plan,
(ii) The Source Water Assessment, and/or
(iii) The Individual Source Vulnerability Assessment.
4. A water source Well Head Protection Plan consists of the information outlined in ~~Chapter Section~~Rule 391-3-5-.40(3) through (7).
5. A water source, Source Water Assessment consists of the information outlined in ~~Chapter Sections~~Rules 391-3-5-.06(4) and 391-3-5-.42(3) and (4).
6. A water source Individual Source Vulnerability Assessment consists of the information outlined in ~~Chapter Sections~~Rule 391-3-5-.22(g) through (i).
7. The water source rating developed for Individual Source Vulnerability Assessments is to be used to determine if a source is at high, medium, or low risk to microbiological contamination.
(c) Ground_water systems must comply with the requirements of this ~~section~~Rule beginning December 1, 2009.
(2) **Sanitary Surveys for Ground W~~w~~ater Systems.** 40 CFR Part 141, Subpart S § 141.401 is hereby incorporated by reference.
(a) Ground_water systems must provide the Division, at the Division's request, any existing information that will enable the Division to conduct a sanitary survey.
(b) A sanitary survey conducted by the Division includes an onsite review of the water source(s), 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.
(c) The sanitary survey includes an evaluation of the applicable components listed below:
1. Source,
2. Treatment,
3. Distribution system,
4. Finished water storage,
5. Pumps, pump facilities, and controls,
6. Monitoring, reporting, and data verification,
7. System management and operation, and

8. Operator compliance with ~~State~~Division requirements.

(3) **Ground W~~w~~ater Source Microbial Monitoring and Analytical Methods.** 40 CFR Part 141, Subpart S §141.402 is hereby incorporated by reference.

(a) Triggered source water monitoring. ~~is required when a groundwater system doesn't provide at least 4-log treatment of viruses before or at the first customer for each groundwater source in accordance with 40 CFR § 141.402(a).~~

~~1. A groundwater system must collect at least one 100 mL groundwater source sample from each source in use at the time of the total coliform-positive. This sample may be counted as a repeat sample or an additional sample collected along with the required number of repeat samples.~~

1. *General requirements*. A ground water system must conduct triggered source water monitoring if the conditions identified in paragraphs (3)(a)1.(i) and either (3)(a)1.(ii) or (3)(a)1.(iii) exist.

(i) The system does not provide at least 4-log treatment of viruses (using inactivation, removal, or a Division-approved combination of 4-log virus inactivation and removal) before or at the first customer for each ground water source; and either

(ii) The system is notified that a sample collected under §141.21(a) is total coliform-positive and the sample is not invalidated under §141.21(c) until March 31, 2016, or

(iii) The system is notified that a sample collected under Rule 391-3-5-.55(4) through (7) is total coliform-positive and the sample is not invalidated under Rule 391-3-5-.55(3)(c) beginning April 1, 2016.

~~2. The source water sample must be analyzed for *E. coli* using a Division approved method. If found to be positive for *E. coli* the system must:~~

~~(i) Take corrective action as directed by the Division or~~

~~(ii) Collect 5 additional source water samples from that source within 24 hours to be analyzed for *E. coli*. The Division may extend the 24 hour time limit on a case-by-case basis.~~

~~(iii) If any of the additional source water samples are *E. coli* positive, then mandatory corrective action is required.~~

2. *Sampling requirements.* A ground water system must collect, within 24 hours of notification of the total coliform-positive sample, at least one ground water source sample from each ground water source in use at the time the total coliform-positive sample was collected under §141.21(a) until March 31, 2016, or collected under Rule 391-3-5-.55(4) through (7) beginning April 1, 2016, except as provided in paragraph (3)(a)2.(ii).

(i) The Division may extend the 24-hour time limit on a case-by-case basis if the system cannot collect the ground water source water sample within 24 hours due to circumstances beyond its control. In the case of an extension, the Division must specify how much time the system has to collect the sample.

(ii) If approved by the Division, systems with more than one ground water source may meet the requirements of paragraph (3)(a)2. by sampling a representative ground water source or sources. If directed by the Division, systems must submit for Division approval a triggered source water monitoring plan that identifies one or more ground water sources that are representative of each monitoring site in the system's sample siting plan under §141.21(a) until March 31, 2016, or under Rule 391-3-5-.55(3) beginning

April 1, 2016, and that the system intends to use for representative sampling under this paragraph.

~~3. The Division does have the option to invalidate or waive triggered source water monitoring as stated in 40 CFR § 141.21(c) requirements when~~

~~(i) Total coliform positive sample is directly related to the distribution system.~~

~~(ii) Treatment problems.~~

~~(iii) Improperly constructed well.~~

~~(iv) System management and operation problems, etc.~~

3. *Additional requirements.* If the Division does not require corrective action under §141.403(a)(2) for an *E. coli* positive source water sample collected under paragraph (3)(a)2. that is not invalidated under paragraph (3)(d), the system must collect five additional source water samples from the same source within 24 hours of being notified of the *E. coli*-positive sample.

4. *Consecutive and wholesale systems.*~~Consecutive systems must notify the wholesale system within 24 hours of being notified of a total coliform positive sample. The wholesaler must collect a triggered source water sample within 24 hours from every one of its groundwater sources that may have supplied the consecutive system. If the sample is *E. coli* positive the wholesaler must notify any consecutive system served by the source(s) within 24 hours of being notified of the positive.~~

(i) In addition to the other requirements of paragraph (3)(a), a consecutive ground water system that has a total coliform-positive sample collected under §141.21(a) until March 31, 2016, or under Rule 391-3-5-.55(4) through (7) beginning April 1, 2016, must notify the wholesale system(s) within 24 hours of being notified of the total coliform-positive sample.

(ii) In addition to the other requirements of paragraph (3)(a), a wholesale ground water system must comply with paragraphs (3)(a)4.(ii)(I) and (3)(a)4.(ii)(II).

(I) A wholesale ground water system that receives notice from a consecutive system it serves that a sample collected under §141.21(a) until March 31, 2016, or collected under Rule 391-3-5-.55(4) through (7) beginning April 1, 2016, is total coliform-positive must, within 24 hours of being notified, collect a sample from its ground water source(s) under paragraph (3)(a)(2) and analyze it for a *E. Coli* under paragraph (3)(c).

(II) If the sample collected under paragraph (3)(a)4.(ii)(I) is *E. Coli*-positive, the wholesale ground water system must notify all consecutive systems served by that ground water source of the *E. Coli* source water positive within 24 hours of being notified of the ground water source sample monitoring result and must meet the requirements of paragraph (3)(a)3.

5. *Exceptions to the triggered source water monitoring requirements.* A ground water system is not required to comply with the source water monitoring requirements of paragraph (3)(a) if either of the following conditions exists:

(i) The Division determines, and documents in writing, that the total coliform-positive sample collected under §141.21(a) until March 31, 2016, or under Rule 391-3-5(4) through (7) beginning April 1, 2016, is caused by a distribution system deficiency; or

(ii) The total coliform-positive sample collected under §141.21(a) until March 31, 2016, or under Rule 391-3-5(4) through (7) beginning April 1, 2016, is collected at a location that meets Division criteria for distribution system conditions that will cause total coliform-positive samples.

(b) Assessment Source Water Monitoring. ~~maybe required in accordance with 40 CFR § 141.402(b) by the Division for those systems that are at a higher risk for *E. coli* contamination based on source water assessment data, wellhead protection plans and historical monitoring data. They maybe require to perform one or more of the following based on a review by the Division on a case-by-case basis.~~ If directed by the Division, ground water systems must conduct assessment source water monitoring that meets Division-determined requirements for such monitoring. A ground water system conducting assessment source water monitoring may use a triggered source water sample collected under 40 CFR §141.402(a)(2) to meet the requirements of this paragraph. Division-determined assessment source water monitoring requirements may include:

1. Collection of a total of 12 ground water source samples that represent~~ing~~ each month the system provides ground water to the public~~.~~,

2. Collection of samples from each well unless the system obtains written Division approval ~~from the Division~~ to conduct monitoring at one or more wells within the ground water system that are representative of multiple wells used by the~~at~~ system and that draw water from the same hydrogeological setting~~.~~,

3. ~~Collect groundwater source samples at a location prior to any treatment of the groundwater source unless the state approves a sampling location after treatment.~~Collection of a standard sample volume of at least 100 mL for *E. coli* analysis,

4. ~~Collect groundwater samples at the well itself unless the system's configuration doesn't allow for such sampling and the Division approves an alternate sampling location that is representative of the water quality of the well.~~Analysis of all ground water source samples using one of the analytical methods listed in 40 CFR §141.402(c)(2) for the presence of *E. coli*,

5. Collection of ground water source samples at a location prior to any treatment of the ground water source unless the Division approves a sampling location after treatment, and

6. Collection of ground water source samples at the well itself unless the system's configuration does not allow for sampling at the well itself and the Division approves an alternate sampling location that is representative of the water quality of that well.

(c) ~~Positive Assessment Source Water samples will require the system to provide Tier 1 Public Notice, and the system must take corrective action as directed by the Division.~~ Analytical Methods.

1. A ground water system subject to the source water monitoring requirements of paragraph (3)(a) must collect a standard sample volume of at least 100 mL for *E. coli* analysis.

2. A ground water system must analyze all ground water source samples collected under paragraph (3)(a) using one of the analytical methods listed in the following table in 40 CFR §141.402(c)(2) or one of the alternative methods listed in Appendix A to Subpart C of 40 CFR Part 141(Alternative Testing Methods Approved for Analyses Under the Safe Drinking Water Act) for the presence of *E. coli*.

(d) ~~Analytical Methods: 40 CFR § 141.402(c) see § 141-Regulating Contaminants.~~ Invalidation of a Fecal Indicator-Positive Ground Water Source Sample.

1. A ground water system may obtain Division invalidation of a *E. coli* -positive ground water source sample collected under paragraph (3)(a) only under the conditions specified in paragraphs (3)(d)1.(i) and (ii).

(i) The system provides the Division with written notice from the laboratory that improper sample analysis occurred; or

(ii) The Division determines and documents in writing that there is substantial evidence that an *E. coli*-positive ground water source sample is not related to source water quality.

2. If the Division invalidates an *E. coli*-positive ground water source sample, the ground water system must collect another source water sample under paragraph (3)(a) within 24 hours of being notified by the Division of its invalidation decision and have it analyzed using the analytical methods in paragraph (3)(c). The Division may extend the 24-hour time limit on a case-by-case basis if the system cannot collect the source water sample within 24 hours due to circumstances beyond its control. In the case of an extension, the Division must specify how much time the system has to collect the sample.

(e) Sampling Location.

1. Any ground water source sample required under 40 CFR §141.402(a) must be collected at a location prior to any treatment of the ground water source unless the Division approves a sampling location after treatment.

2. If the system's configuration does not allow for sampling at the well itself, the system may collect a sample at a Division-approved location to meet the requirements of paragraph (3)(a) if the sample is representative of the water quality of that well.

(f) Public Notification. A ground water system with a ground water source sample collected under 40 CFR §141.402 (a) or (b) that is *E. Coli*-positive and that is not invalidated under 40 CFR §141.402(d), including consecutive systems served by the ground water source, must conduct public notification under 40 CFR §141.202.

(g) Monitoring Violations. Failure to meet the requirements of paragraphs (3)(a) through (3)(e) is a monitoring violation and requires the ground water system to provide public notification under 40 CFR §141.204.

(4) **Treatment Technique Requirements for Ground Wwater Systems.** 40 CFR Part 141, Subpart S §141.403 is hereby incorporated by reference.

(a) The treatment technique requirements of this sectionparagraph must be met by ground water systems with significant deficiencies or source water fecal contamination:

1. When a significant deficiency is identified or when a ground water source sample collected under 40 CFR § 141.402(a)(3) is fecal positive.

2. When directed by the Division, if a ground water system with a ground water source sample collected under 40 CFR § 141.402(a)(2), § 141.402(a)(4), or § 141.402(b) is fecal positive.

3. When a significant deficiency is identified at a Subpart H public water system that uses both ground water and surface water or ground water under the direct influence of surface water, the system must comply with this sectionparagraph(4) except in cases where the Division determines that the significant deficiency is in a portion of the distribution system that is served solely by surface water or ground water under the direct influence of surface water.

4. Unless directed by the Division to implement a specific corrective action, the ground water system must consult with the Division regarding the appropriate corrective action within thirty (30) days of receiving written notice from the Division of a significant deficiency, written notice from a laboratory that a ground water source sample collected under 40 CFR § 141.402(a)(3) was found to be fecal positive, or direction from the Division that a fecal positive collected under 40 CFR § 141.402(a)(2), § 141.402(a)(4), or § 141.402(b) requires corrective action.
5. Within 120 days of receiving written notification from the Division of a significant deficiency, written notice from a laboratory that a ground water source sample collected under 40 CFR § 141.402(a)(3) was found to be fecal positive, or direction from the Division that a fecal positive collected under 40 CFR § 141.402(a)(2), § 141.402(a)(4), or § 141.402(b) requires corrective action, the ground water system must either:
(i) Have completed corrective action in accordance with a Division approved corrective action plan.
(ii) Be in compliance with a Division approved corrective action plan and schedule subject to the conditions specified in paragraphs (4)(a) and (4)(b) ~~of this section~~.
(I) The Division must approve any modifications to the corrective action plan and schedule.
(II) The system must comply with any interim measures specified by the Division for the protection of the public health pending Division approval of the corrective action plan and schedule or pending completion of the corrective action.
6. Ground water systems that meet the conditions of paragraphs (4)(a)1. or (4)(a)2. ~~of this section~~ must implement one or more of the following corrective action alternatives:
(i) Correct all significant deficiencies;
(ii) Provide an alternate source of water;
(iii) Eliminate the source of contamination; or
(iv) Provide treatment that reliably achieves at least 4-log treatment of viruses (using inactivation, removal, or a combination of both) before or at the first customer for the ground water source.
7. Special Notice to the public of significant deficiencies or source water fecal contamination.
(i) In addition to the applicable public notification requirements of 40 CFR § 141.402, a community ground water system that receives notice from the Division of a significant deficiency or notification of a fecal positive ground water source sample that is not invalidated by the Division under 40 CFR § 141.402(d) must inform the public served by the water system under 40 CFR § 141.153(h)(6) of the fecal positive source sample or of any significant deficiency that has not been corrected. The system must continue to inform the public annually until the significant deficiency is corrected or the fecal contamination in the ground water source is determined by the Division to be corrected under paragraph (4)(a)5. ~~of this section~~.
(ii) In addition to the applicable public notification requirements of 40 CFR § 141.402, a non-community ground water system that receives notice from the Division of a significant deficiency must inform the public served by the water system in a manner approved by the Division of any significant deficiency that has not been corrected within twelve (12) months of being notified. The system must continue to inform the public annually until the significant deficiency is corrected. The information must include:

(I) The nature of the significant deficiency and the date the significant deficiency was identified by the Division;
(II) The Division approved plan and schedule for correction of the significant deficiency, including interim measures, progress to date, and any interim measures completed; and
(III) For systems with a large portion of non-English speaking consumers, as determined by the Division, information in the appropriate language regarding the importance of the notice or a telephone number or address where consumers may contact the system to obtain a translated copy of the notice or assistance in the appropriate language.
(iii) If directed by the Division, a non-community water system with significant deficiencies that have been corrected must inform its customers of the significant deficiencies, how the deficiencies were corrected, and the dates of correction.
(b) Compliance Monitoring.
1. 40 CFR Part 141, Subpart S, § 141.403(b), § 141.403(c), and § 141.403(d) are hereby incorporated by reference.
2. A ground water system that is not required to meet the source water monitoring requirements in this ~~section~~Rule because it provides at least 4-log treatment of viruses for any ground water source must notify the ~~State~~Division in writing that it is providing at least 4-log treatment of viruses and begin compliance monitoring in accordance with this ~~section~~Rule by December 1, 2009.
3. A ground water system that places a ground water source in service after November 30, 2009, that is not required to meet the source water monitoring requirements in this ~~section~~Rule because it provides at least 4-log treatment of viruses for any ground water source must notify the ~~State~~Division in accordance with 40 CFR § 141.403(b)(2)(i), (b)(2)(ii) and (b)(2)(iii) and conduct compliance monitoring as required under 40 CFR § 141.403(b)(3) within thirty days of placing the source in service.
4. If the system subsequently discontinues 4-log treatment of viruses before or at the first customer for a ground water source, the system must conduct ground water source monitoring as required under 40 CFR § 141.402.
5. A ground water system serving greater than 3,300 people that is required to conduct compliance monitoring must continuously monitor the residual disinfectant concentration using analytical methods specified in 40 CFR § 141.74(a)(2) at a location approved by the ~~State~~Division and must record the lowest residual disinfectant concentration each day that water from the ground water source is served to the public. The ground water system must maintain the ~~State~~Division-determined residual disinfectant concentration every day the ground water system serves water from the ground water source to the public. If there is a failure in the continuous monitoring equipment, the ground water system must conduct grab sampling every four hours until the continuous monitoring equipment is returned to service. The system must resume continuous residual disinfectant monitoring within 14 days.
6. A ground water system serving 3,300 or fewer people that is required to conduct compliance monitoring must monitor the residual disinfectant concentration using analytical methods specified in 40 CFR § 141.74(a)(2) at a location approved by the and record the residual disinfect concentration each day that water from the ground water source is served to the public. The ground water system must maintain the ~~State~~Division-determined residual disinfectant concentration every day the ground water

system serves water from the ground_water source to the public. The ground_water system must take a daily grab sample during the hour of peak flow or at another time specified by the ~~State~~Division. If any daily grab sample measurement falls below the ~~State~~Division-determined residual disinfectant concentration, the ground_water system must take follow-up samples every four hours until the residual disinfectant concentration is restored to the ~~State~~Division-determined level. Alternatively, a ground water system that serves 3,300 or fewer people may monitor continuously and meet the requirements of 40 CFR § 141.403(b)(3)(i)(A).

7. A ground_water system may discontinue 4-log treatment of viruses if the ~~State~~Division determines and documents in writing that 4-log treatment of viruses is no longer necessary for that ground_water source. A system that discontinues 4-log treatment of viruses is subject to the source water monitoring and analytical methods requirements of 40 CFR Part 141 Subpart S, § 141.402.

8. Failure to meet the monitoring requirements of paragraph (4)(b)~~this section~~ is a monitoring violation and requires the ground_water system to provide public notification under 40 CFR Part 141 Subpart S, § 141.402.

9. A ground_water system conducting compliance monitoring under 40 CFR § 141.403(b) must notify the ~~State~~Division any time the system fails to meet any ~~State~~Division-specified requirements including, but not limited to, minimum residual disinfectant concentration, membrane operating criteria or membrane integrity, and alternative treatment operating criteria, if operation in accordance with the criteria or requirements is not restored within four hours. The ground_water system must notify the ~~State~~Division as soon as possible, but in no case later than the end of the next business day.

(5) **Treatment Technique Violations for Ground_W~~w~~ater Systems.** 40 CFR, Subpart S, § 141.404 is hereby incorporated by reference.

(a) A ground_water system with a significant deficiency is in violation of the treatment technique requirement if, within 120 days of receiving written notice from the Division of the significant deficiency, the system:

1. Does not complete corrective action in accordance with any applicable Division plan review processes including interim actions and measures specified by the Division, or
2. Is not in compliance with a Division approved corrective action plan and schedule.

(b) Unless the Division invalidates a fecal positive ground_water source sample under 40 CFR § 141.402(d), a ground_water system is in violation of the treatment technique requirement if, within 120 days of meeting the conditions of 40 CFR § 141.403(a)(1) or § 141.402(a)(2), the system:

1. Does not complete corrective action in accordance with any applicable Division plan review processes including interim actions and measures specified by the Division, or
2. Is not in compliance with a Division approved corrective action plan and schedule.

(c) A ground_water system subject to the requirements of 40 CFR § 141.402(a)(2) that fails to maintain at least 4-log treatment of viruses (using inactivation, removal, or a combination of the two) technique requirement if the failure is not corrected within four hours of determining the system is not maintaining at least 4-log treatment of viruses before or at the first customer.

(d) Ground water systems must give public notification under 40 CFR § 141.203 for the treatment technique violations specified in paragraphs (5)(a), (5)(b) and (5)(c) ~~of this section~~.

(6) **Reporting and Recordkeeping for Ground W~~w~~ater Systems.** 40 CFR Part 141, Subpart S, § 141.405 is hereby incorporated by reference.

(a) In addition to the requirements of 40 CFR § 141.31, a ground water system regulated under ~~this~~40 CFR Part 141 S~~s~~ubpart S must provide the following information to the Division:

1. A ground water system conducting compliance monitoring under 40 CFR § 141.403(b) must notify the Division any time the systems fails to meet any ~~State~~Division-specified requirements including, but not limited to, minimum residual disinfectant concentration, membrane operating criteria or integrity, and alternative treatment operating criteria, if operation in accordance with the criteria or requirements is not restored within four (4) hours. The ground water system must notify the ~~State~~Division as soon as possible, but in no case later than the end of the next business day.

2. After completing any corrective action under 40 CFR § 141.403(a), a ground water system must notify the ~~State~~Division within thirty (30) days of completion of the corrective action.

3. If a ground water system that is subject to the requirements of 40 CFR § 141.402(a) does not conduct source water monitoring under 40 CFR § 141.402(a)(5)(ii), the system must provide documentation to the Division within thirty (30) days of the total coliform positive sample that it met the ~~State~~Division criteria.

(b) In addition to the requirements of 40 CFR § 141.33, a ground water system regulated under ~~this~~40 CFR Part 141 S~~s~~ubpart S must maintain the following information in its records:

1. Documentation of corrective actions. Documentation shall be kept for a period of not less than ten years.

2. Documentation of notice to the public as required under 40 CFR § 141.493(a)(7). Documentation shall be kept for a period not less than three years.

3. Records of decisions under 40 CFR § 141.402(a)(5)(ii) and records of invalidation of fecal indicator-positive ground water samples under 40 CFR § 141.402(d). Documentation shall be kept for a period of not less than five years.

4. For consecutive systems, documentation of notification to the wholesale system(s) of total- coliform--positive samples that are not invalidated under 40 CFR § 141.21(c) until March 31, 2016, or under Rule 391-3-5-.55(3) beginning April 1, 2016. Documentation shall be kept for a period of not less than five years.

5. For systems, including wholesale systems, that are required to perform compliance monitoring under 40 CFR § 141.403(b):

(i) Records of the ~~State~~Division-specified minimum disinfectant residual. Documentation shall be kept for a period of not less than ten years.

(ii) Records of lowest daily residual disinfectant concentration and records of the date and duration of any failure to maintain the ~~State~~Division-prescribed minimum residual disinfectant concentration for a period of more than four hours. Documentation shall be kept for a period of not less than five years.

(iii) Records of ~~State~~Division-specified compliance requirements for membrane filtration and of parameters specified by the Division for ~~State~~Division-approved alternative treatment and records of the date and duration of any failure to meet the membrane operating, membrane integrity, or alternative treatment operating requirements for more than four hours. Documentation shall be kept for a period of not less than five years.

(7) **Division Recordkeeping.** The records kept by the Division shall be in accordance with 40 CFR § 142.14.

(8) **Division Reporting.** The reporting by the Division shall be performed as required by 40 CFR § 142.15.

Authority: O.C.G.A. Sec. 12-5-170 *et seq.*

391-3-5-.55 Revised Total Coliform Rule

(1) **General.**

(a) *General*. The provisions of this Rule include both maximum contaminant level and treatment technique requirements.

(b) *Applicability*. The provisions of this Rule apply to all public water systems.

(c) *Compliance date*. Systems must comply with the provisions of this Rule beginning April 1, 2016, unless otherwise specified in this Rule.

(d) *Violations of national primary drinking water regulations*. Failure to comply with the applicable requirements of this Rule, including requirements established by the Division pursuant to these provisions, is a violation of the national primary drinking water regulations.

(2) **Analytical Methods and Laboratory Certification**

(a) *Analytical Methodology*.

1. The standard sample volume required for analysis, regardless of analytical method used, is 100 ml.

2. Systems need only determine the presence or absence of total coliforms and *E. coli*; a determination of density is not required

3. The time from sample collection to initiation of test medium incubation may not exceed 30 hours. Systems are encouraged but not required to hold samples below 10 deg. C during transit.

4. If water having residual chlorine (measured as free, combined, or total chlorine) is to be analyzed, sufficient sodium thiosulfate ($Na_2S_2O_3$) must be added to the sample bottle before sterilization to neutralize any residual chlorine in the water sample. Dechlorination procedures are addressed in Section 9060A.2 of *Standard Methods for the Examination of Water and Wastewater* (20th and 21st editions).

5. Systems must conduct total coliform and *E. coli* analyses in accordance with one of the analytical methods in 40 CFR §141.852(a)(5) or one of the alternative methods listed in Appendix A to Subpart C of 40 CFR Part 141.

(b) *Laboratory certification*. Systems must have all compliance samples required under this Rule analyzed by a laboratory certified by the Division to analyze drinking water

samples. The laboratory used by the system must be certified for each method (and associated contaminant(s)) used for compliance monitoring analyses under this Rule.
(c) *Incorporation by reference.* The standards required in paragraph (2) of this Rule are incorporated by reference under 40 CFR §141.852(c).
(3) **General Monitoring Requirements for all Public Water Systems**
(a) Sample Site Plans.
1. Systems must develop a written sample siting plan that identifies sampling sites and a sample collection schedule that are representative of water throughout the distribution system not later than March 31, 2016. These plans are subject to Division review and revision. Systems must collect total coliform samples according to the written sample siting plan. Monitoring required by paragraphs (4) through (8) of this Rule may take place at a customer's premise, dedicated sampling station, or other designated compliance sampling location. Routine and repeat sample sites and any sampling points necessary to meet the requirements of Rule 391-3-5-.54 must be reflected in the sampling plan.
2. Systems must collect samples at regular time intervals throughout the month, except that systems that use only ground water and serve 4,900 or fewer people may collect all required samples on a single day if they are taken from different sites.
3. Systems must take at least the minimum number of required samples even if the system has had an *E. coli* MCL violation or has exceeded the coliform treatment technique triggers in paragraph (9)(a).
4. A system may conduct more compliance monitoring than is required by this Rule to investigate potential problems in the distribution system and use monitoring as a tool to assist in uncovering problems. A system may take more than the minimum number of required routine samples and must include the results in calculating whether the coliform treatment technique trigger in paragraph (9)(a)1.(i) and (ii) has been exceeded only if the samples are taken in accordance with the existing sample siting plan and are representative of water throughout the distribution system.
5. Systems must identify repeat monitoring locations in the sample siting plan. Unless the provisions of paragraph (3)(a)5.(i) are met, the system must collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or one service connection away from the end of the distribution system, the system must still take all required repeat samples. However, the Division may allow an alternative sampling location in lieu of the requirement to collect at least one repeat sample upstream or downstream of the original sampling site. Systems required to conduct triggered source water monitoring under 391-3-5-.54(3)(a) must take ground water source sample(s) in addition to repeat samples required under this Rule.
(i) Systems may propose repeat monitoring locations to the Division that the system believes to be representative of a pathway for contamination of the distribution system. A system may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in its sample siting plan. The system must design its SOP to focus the repeat samples at

locations that best verify and determine the extent of potential contamination of the distribution system area based on specific situations. The Division may modify the SOP or require alternative monitoring locations as needed.

6. The Division may review, revise, and approve, as appropriate, repeat sampling proposed by systems under paragraph (3)(a)5.(i). The system must demonstrate that the sample siting plan remains representative of the water quality in the distribution system. The Division may determine that monitoring at the entry point to the distribution system (especially for undisinfected ground water systems) is effective to differentiate between potential source water and distribution system problems.

(b) *Special purpose samples*. Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, must not be used to determine whether the coliform treatment technique trigger has been exceeded. Repeat samples taken pursuant to paragraph (8) are not considered special purpose samples, and must be used to determine whether the coliform treatment technique trigger has been exceeded.

(c) *Invalidation of total coliform samples*. A total coliform-positive sample invalidated under this paragraph does not count toward meeting the minimum monitoring requirements of this Rule.

1. The Division may invalidate a total coliform-positive sample if any of the following conditions are met:

(i) The laboratory establishes that improper sample analysis caused the total coliform-positive result.

(ii) The Division, on the basis of the results of repeat samples collected as required under paragraph (8)(a), determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. The Division cannot invalidate a sample on the basis of repeat sample results unless all repeat sample(s) collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected at a location other than the original tap are total coliform-negative (e.g., the Division cannot invalidate a total coliform-positive sample on the basis of repeat samples if all the repeat samples are total coliform-negative, or if the system has only one service connection).

(iii) The Division has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition that does not reflect water quality in the distribution system. In this case, the system must still collect all repeat samples required under paragraph (8)(a), and use them to determine whether a coliform treatment technique trigger in paragraph (9) has been exceeded. To invalidate a total coliform-positive sample under this paragraph, the decision and supporting rationale must be documented in writing, and approved and signed by the supervisor of the Division official who recommended the decision. The Division must make this document available to EPA and the public. The written documentation must state the specific cause of the total coliform-positive sample, and what action the system has taken, or will take, to correct this problem. The Division may not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total coliform-negative.

2. A laboratory must invalidate a total coliform sample (unless total coliforms are detected) if the sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined (e.g., the Multiple-Tube

Fermentation Technique), produces a turbid culture in the absence of an acid reaction in the Presence-Absence (P-A) Coliform Test, or exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter (e.g., Membrane Filter Technique). If a laboratory invalidates a sample because of such interference, the system must collect another sample from the same location as the original sample within 24 hours of being notified of the interference problem, and have it analyzed for the presence of total coliforms. The system must continue to re-sample within 24 hours and have the samples analyzed until it obtains a valid result. The Division may waive the 24-hour time limit on a case-by-case basis. Alternatively, the Division may implement criteria for waiving the 24-hour sampling time limit to use in lieu of case-by-case extensions.

(4) **Routine Monitoring Requirements for Non-Community Water Systems Serving 1,000 or Fewer People Using Only Ground Water**

(a) *General*.

1. The provisions of this paragraph (4) apply to non-community water systems using only ground water (except ground water under the direct influence of surface water, as defined in 391-3-5-.02(64)) and serving 1,000 or fewer people.

2. Following any total coliform-positive sample taken under the provisions of paragraph (4), systems must comply with the repeat monitoring requirements and *E. coli* analytical requirements in paragraph (8).

3. Once all monitoring required by paragraphs (4) and (8) for a calendar month has been completed, systems must determine whether any coliform treatment technique triggers specified in paragraph (9) have been exceeded. If any trigger has been exceeded, systems must complete assessments as required by paragraph (9).

4. For the purpose of determining eligibility for remaining on or qualifying for quarterly monitoring under the provisions of paragraphs (4)(d)4. and (4)(e)2., respectively, for transient non-community water systems, the Division may elect to not count monitoring violations under paragraph (10)(c)1. if the missed sample is collected no later than the end of the monitoring period following the monitoring period in which the sample was missed. The system must collect the make-up sample in a different week than the routine sample for that monitoring period and should collect the sample as soon as possible during the monitoring period. This authority does not affect the provisions of paragraphs (10)(c)1. and (11)(a)4.

(b) *Monitoring frequency for total coliforms*. Systems must monitor each calendar quarter that the system provides water to the public, except for seasonal systems or as provided under paragraphs (4)(c) through (4)(e) and (4)(g). Seasonal systems must meet the monitoring requirements of paragraph (4)(f).

(c) *Transition to 40 CFR Part 141 Subpart Y*.

1. Systems, including seasonal systems, must continue to monitor according to the total coliform monitoring schedules under Rule 391-3-5-.23 that were in effect on March 31, 2016, unless any of the conditions for increased monitoring in paragraph (4)(d) are triggered on or after April 1, 2016, or unless otherwise directed by the Division.

2. Beginning April 1, 2016, the Division must perform a special monitoring evaluation during each sanitary survey to review the status of the system, including the distribution system, to determine whether the system is on an appropriate monitoring schedule. After the Division has performed the special monitoring evaluation during each sanitary

survey, the Division may modify the system's monitoring schedule, as necessary, or it may allow the system to stay on its existing monitoring schedule, consistent with the provisions of paragraph (4). The Division may not allow systems to begin less frequent monitoring under the special monitoring evaluation unless the system has already met the applicable criteria for less frequent monitoring in paragraph (4).

(d) *Increased monitoring requirements for systems on quarterly monitoring*. A system on quarterly monitoring that experiences any of the events identified in paragraphs (4)(d)1. through (4)(d)4. must begin monthly monitoring the month following the event. The system must continue monthly monitoring until the requirements in paragraph (4)(e) for quarterly monitoring are met. A system on monthly monitoring for reasons other than those identified in paragraphs (4)(d)1. through (4)(d)4. is not considered to be on increased monitoring for the purposes of paragraph (4)(e).

1. The system triggers a Level 2 assessment or two Level 1 assessments under the provisions of paragraph (9) in a rolling 12-month period.

2. The system has an *E. coli* MCL violation.

3. The system has a coliform treatment technique violation.

4. The system has two monitoring violations under Rule 391-3-5-.55 or one monitoring violation under Rule 391-3-5-.55 and one Level 1 assessment under the provisions of paragraph (9) in a rolling 12-month period for a system on quarterly monitoring.

(e) *Requirements for returning to quarterly monitoring*. The Division may reduce the monitoring frequency for a system on monthly monitoring triggered under paragraph (4)(d) to quarterly monitoring if the system meets the following criteria:

1. Within the last 12 months, the system must have a completed sanitary survey or a site visit by the Division or a voluntary Level 2 assessment by a party approved by the Division, be free of sanitary defects, and have a protected water source; and

2. The system must have a clean compliance history for a minimum of 12 months.

(f) *Seasonal systems*.

1. Beginning April 1, 2016, all seasonal systems must demonstrate completion of a Division-approved start-up procedure, which may include a requirement for startup sampling prior to serving water to the public.

2. A seasonal system must monitor every month that it is in operation.

3. The Division may exempt any seasonal system from some or all of the requirements for seasonal systems if the entire distribution system remains pressurized during the entire period that the system is not operating.

(g) *Additional routine monitoring the month following a total coliform-positive sample*. Systems collecting samples on a quarterly frequency must conduct additional routine monitoring the month following one or more total coliform-positive samples (with or without a Level 1 treatment technique trigger). Systems must collect at least three routine samples during the next month, except that the Division may waive this requirement if the conditions of paragraph (4)(g)1., 2., or 3. are met. Systems may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. Systems must use the results of additional routine samples in coliform treatment technique trigger calculations under paragraph (9)(a).

1. The Division may waive the requirement to collect three routine samples the next month in which the system provides water to the public if the Division, or an agent

approved by the Division, performs a site visit before the end of the next month in which the system provides water to the public. Although a sanitary survey need not be performed, the site visit must be sufficiently detailed to allow the Division to determine whether additional monitoring and/or any corrective action is needed. The Division cannot approve an employee of the system to perform this site visit, even if the employee is an agent approved by the Division to perform sanitary surveys.

2. The Division may waive the requirement to collect three routine samples the next month in which the system provides water to the public if the Division has determined why the sample was total coliform-positive and has established that the system has corrected the problem or will correct the problem before the end of the next month in which the system serves water to the public. In this case, the Division must document this decision to waive the following month's additional monitoring requirement in writing, have it approved and signed by the supervisor of the Division official who recommends such a decision, and make this document available to the EPA and public. The written documentation must describe the specific cause of the total coliform-positive sample and what action the system has taken and/or will take to correct this problem.

3. The Division may not waive the requirement to collect three additional routine samples the next month in which the system provides water to the public solely on the grounds that all repeat samples are total coliform-negative. If the Division determines that the system has corrected the contamination problem before the system takes the set of repeat samples required in paragraph (8), and all repeat samples were total coliform-negative, the Division may waive the requirement for additional routine monitoring the next month.

(5) Routine Monitoring Requirements for Community Water Systems Serving 1,000 or Fewer People Using Only Ground Water.

(a) *General*.

1. The provisions of paragraph (5) apply to community water systems using only ground water (except ground water under the direct influence of surface water, as defined in 391-3-5-.02(64)) and serving 1,000 or fewer people.

2. Following any total coliform-positive sample taken under the provisions of paragraph (5), systems must comply with the repeat monitoring requirements and *E. coli* analytical requirements in paragraph (8).

3. Once all monitoring required by paragraphs (5) and (8) for a calendar month has been completed, systems must determine whether any coliform treatment technique triggers specified in paragraph (9) have been exceeded. If any trigger has been exceeded, systems must complete assessments as required by paragraph (9).

(b) *Monitoring frequency for total coliforms*. The monitoring frequency for total coliforms is one sample/month, except as provided below:

1. All systems must continue to monitor according to the total coliform monitoring schedules under Rule 391-3-5-.23 that were in effect on March 31, 2016, unless otherwise directed by the Division.

2. Beginning April 1, 2016, the Division must perform a special monitoring evaluation during each sanitary survey to review the status of the system, including the distribution system, to determine whether the system is on an appropriate monitoring schedule. After the Division has performed the special monitoring evaluation during each sanitary survey, the Division may modify the system's monitoring schedule, as necessary, or it

may allow the system to stay on its existing monitoring schedule, consistent with the provisions of paragraph (5).

(6) Routine Monitoring Requirements for Subpart H Public Water Systems Serving 1,000 or Fewer People.

(a) *General*.

1. The provisions of paragraph (6) apply to Subpart H public water systems of this part serving 1,000 or fewer people.

2. Following any total coliform-positive sample taken under the provisions of paragraph (6), systems must comply with the repeat monitoring requirements and *E. coli* analytical requirements in paragraph (8).

3. Once all monitoring required by paragraphs (6) and (8) for a calendar month has been completed, systems must determine whether any coliform treatment technique triggers specified in paragraph(9) have been exceeded. If any trigger has been exceeded, systems must complete assessments as required by paragraph (9).

4. Seasonal systems.

(i) Beginning April 1, 2016, all seasonal systems must demonstrate completion of a Division-approved start-up procedure, which may include a requirement for start-up sampling prior to serving water to the public.

(ii) The Division may exempt any seasonal system from some or all of the requirements for seasonal systems if the entire distribution system remains pressurized during the entire period that the system is not operating.

(b) *Routine monitoring frequency for total coliforms*. Subpart H systems (including consecutive systems) must monitor monthly. Systems may not reduce monitoring.

(7) Routine Monitoring Requirements for Public Water Systems Serving More than 1,000 People.

(a) *General*.

1. The provisions of paragraph (7) apply to public water systems serving more than 1,000 persons.

2. Following any total coliform-positive sample taken under the provisions of paragraph (7), systems must comply with the repeat monitoring requirements and *E. coli* analytical requirements in paragraph (8).

3. Once all monitoring required by paragraphs (7) and (8) for a calendar month has been completed, systems must determine whether any coliform treatment technique triggers specified in paragraph (9) have been exceeded. If any trigger has been exceeded, systems must complete assessments as required by paragraph (9).

4. Seasonal systems.

(i) Beginning April 1, 2016, all seasonal systems must demonstrate completion of a Division-approved start-up procedure, which may include a requirement for start-up sampling prior to serving water to the public.

(ii) The Division may exempt any seasonal system from some or all of the requirements for seasonal systems if the entire distribution system remains pressurized during the entire period that the system is not operating.

(b) *Monitoring frequency for total coliforms*. The monitoring frequency for total coliforms is based on the population served by the system, as follows:

Total Coliform Monitoring Frequency for Public Water Systems Serving More Than 1,000 People

Population Served	Minimum number of samples per month
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

(8) Repeat Monitoring and *E. Coli* Requirements.

(a) *Repeat Monitoring*.

1. If a sample taken under paragraphs (4) through (7) of this Rule is total coliform-positive, the system must collect a set of repeat samples within 24 hours of being notified of the positive result. The system must collect no fewer than three repeat samples for each total coliform-positive sample found. The Division may extend the 24-hour limit on a case-by-case basis if the system has a logistical problem in collecting the repeat samples within 24 hours that is beyond its control. Alternatively, the Division may

implement criteria for the system to use in lieu of case-by-case extensions. In the case of an extension, the Division must specify how much time the system has to collect the repeat samples. The Division cannot waive the requirement for a system to collect repeat samples in paragraphs (8)(a)1. through (8)(a)3,.

2. The system must collect all repeat samples on the same day, except that the Division may allow a system with a single service connection to collect the required set of repeat samples over a three-day period or to collect a larger volume repeat sample(s) in one or more sample containers of any size, as long as the total volume collected is at least 300 ml.

3. The system must collect an additional set of repeat samples in the manner specified in paragraphs (8)(a)1. through (8)(a)3. if one or more repeat samples in the current set of repeat samples is total coliform-positive. The system must collect the additional set of repeat samples within 24 hours of being notified of the positive result, unless the Division extends the limit as provided in paragraph (8)(a)1. The system must continue to collect additional sets of repeat samples until either total coliforms are not detected in one complete set of repeat samples or the system determines that a coliform treatment technique trigger specified in paragraph (9)(a) has been exceeded as a result of a repeat sample being total coliform-positive and notifies the Division. If a trigger identified in paragraph (9) is exceeded as a result of a routine sample being total coliform-positive, systems are required to conduct only one round of repeat monitoring for each total coliform-positive routine sample.

4. After a system collects a routine sample and before it learns the results of the analysis of that sample, if it collects another routine sample(s) from within five adjacent service connections of the initial sample, and the initial sample, after analysis, is found to contain total coliforms, then the system may count the subsequent sample(s) as a repeat sample instead of as a routine sample.

5. Results of all routine and repeat samples taken under paragraphs (4) through (8) of this Rule not invalidated by the Division must be used to determine whether a coliform treatment technique trigger specified in paragraph (9) has been exceeded.

(b) *Escherichia coli (E. coli) testing*.

1. If any routine or repeat sample is total coliform-positive, the system must analyze that total coliform-positive culture medium to determine if *E. coli* are present. If *E. coli* are present, the system must notify the Division by the end of the day when the system is notified of the test result, unless the system is notified of the result after the Division office is closed and the Division does not have either an after-hours phone line or an alternative notification procedure, in which case the system must notify the Division before the end of the next business day.

2. The Division has the discretion to allow a system, on a case-by-case basis, to forgo *E. coli* testing on a total coliform-positive sample if that system assumes that the total coliform-positive sample is *E. coli*-positive. Accordingly, the system must notify the Division as specified in paragraph (8)(b)1. and the provisions of Rule 391-3-5-.18(4)(c) apply.

(9) Coliform Treatment Technique Triggers and Assessment Requirements for Protection Against Potential Fecal Contamination.

(a) *Treatment technique triggers*. Systems must conduct assessments in accordance with paragraph (9)(b) after exceeding treatment technique triggers in paragraphs (9)(a)1. and (9)(a)2.

1. Level 1 treatment technique triggers.

(i) For systems taking 40 or more samples per month, the system exceeds 5.0% total coliform-positive samples for the month.

(ii) For systems taking fewer than 40 samples per month, the system has two or more total coliform-positive samples in the same month.

(iii) The system fails to take every required repeat sample after any single total coliform-positive sample.

2. Level 2 treatment technique triggers.

(i) An *E. coli* MCL violation, as specified in paragraph (10)(a).

(ii) A second Level 1 trigger as defined in paragraph (9)(a)1., within a rolling 12-month period, unless the Division has determined a likely reason that the samples that caused the first Level 1 treatment technique trigger were total coliform-positive and has established that the system has corrected the problem.

(b) *Requirements for assessments*.

1. Systems must ensure that Level 1 and 2 assessments are conducted in order to identify the possible presence of sanitary defects and defects in distribution system coliform monitoring practices. Level 2 assessments must be conducted by parties approved by the Division.

2. When conducting assessments, systems must ensure that the assessor evaluates minimum elements that include review and identification of inadequacies in sample sites; sampling protocol; sample processing; 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., small ground water systems); and existing water quality monitoring data. The system must conduct the assessment consistent with any Division 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.

3. Level 1 assessments. A system must conduct a Level 1 assessment consistent with Division requirements if the system exceeds one of the treatment technique triggers in paragraph (9)(a)1.

(i) The system must complete a Level 1 assessment as soon as practical after any trigger in paragraph (9)(a)1. In the completed assessment form, the system must describe sanitary defects detected, corrective actions completed, and a proposed timetable for any corrective actions not already completed. The assessment form may also note that no sanitary defects were identified. The system must submit the completed Level 1 assessment form to the Division within 30 days after the system learns that it has exceeded a trigger.

(ii) If the Division reviews the completed Level 1 assessment and determines that the assessment is not sufficient (including any proposed timetable for any corrective actions not already completed), the Division must consult with the system. If the Division requires revisions after consultation, the system must submit a revised assessment

form to the Division on an agreed-upon schedule not to exceed 30 days from the date of the consultation.

(iii) Upon completion and submission of the assessment form by the system, the Division must determine if the system has identified a likely cause for the Level 1 trigger and, if so, establish that the system has corrected the problem, or has included a schedule acceptable to the Division for correcting the problem.

4. Level 2 assessments. A system must ensure that a Level 2 assessment consistent with Division requirements is conducted if the system exceeds one of the treatment technique triggers in paragraph (9)(a)2. The system must comply with any expedited actions or additional actions required by the Division in the case of an *E. coli* MCL violation.

(i) The system must ensure that a Level 2 assessment is completed by the Division or by a party approved by the Division as soon as practical after any trigger in paragraph (9)(a)2. The system must submit a completed Level 2 assessment form to the Division within 30 days after the system learns that it has exceeded a trigger. The assessment form must describe sanitary defects detected, corrective actions completed, and a proposed timetable for any corrective actions not already completed. The assessment form may also note that no sanitary defects were identified.

(ii) The system may conduct Level 2 assessments if the system has staff or management with the certification or qualifications specified by the Division unless otherwise directed by the Division.

(iii) If the Division reviews the completed Level 2 assessment and determines that the assessment is not sufficient (including any proposed timetable for any corrective actions not already completed), the Division must consult with the system. If the Division requires revisions after consultation, the system must submit a revised assessment form to the Division on an agreed-upon schedule not to exceed 30 days.

(iv) Upon completion and submission of the assessment form by the system, the Division must determine if the system has identified a likely cause for the Level 2 trigger and determine whether the system has corrected the problem, or has included a schedule acceptable to the Division for correcting the problem.

(c) *Corrective action*. Systems must correct sanitary defects found through either Level 1 or 2 assessments conducted under paragraph (9)(b). For corrections not completed by the time of submission of the assessment form, the system must complete the corrective action(s) in compliance with a timetable approved by the Division in consultation with the system. The system must notify the Division when each scheduled corrective action is completed.

(d) *Consultation*. At any time during the assessment or corrective action phase, either the water system or the Division may request a consultation with the other party to determine the appropriate actions to be taken. The system may consult with the Division on all relevant information that may impact on its ability to comply with a requirement of this Rule, including the method of accomplishment, an appropriate timeframe, and other relevant information.

(10) Violations.

(a) *E. coli MCL Violation*. A system is in violation of the MCL for *E. coli* when any of the following conditions occur:

1. The system has an *E. coli*-positive repeat sample following a total coliform-positive routine sample.
2. The system has a total coliform-positive repeat sample following an *E. coli*-positive routine sample.
3. The system fails to take all required repeat samples following an *E. coli*-positive routine sample.
4. The system fails to test for *E. coli* when any repeat sample tests positive for total coliform.
(b) *Treatment technique violation*.
1. A treatment technique violation occurs when a system exceeds a treatment technique trigger specified in paragraph (9)(a) and then fails to conduct the required assessment or corrective actions within the timeframe specified in paragraphs (9)(b) and (9)(c).
2. A treatment technique violation occurs when a seasonal system fails to complete a Division-approved start-up procedure prior to serving water to the public.
(c) *Monitoring violations*.
1. Failure to take every required routine or additional routine sample in a compliance period is a monitoring violation.
2. Failure to analyze for *E. coli* following a total coliform-positive routine sample is a monitoring violation.
(d) *Reporting violations*.
1. Failure to submit a monitoring report or completed assessment form after a system properly conducts monitoring or assessment in a timely manner is a reporting violation.
2. Failure to notify the Division following an *E. coli*-positive sample as required by paragraph (8)(b)1. in a timely manner is a reporting violation.
3. Failure to submit certification of completion of Division-approved start-up procedure by a seasonal system is a reporting violation.

(11) Reporting and Recordkeeping.

(a) *Reporting*.
1. *E. coli*.
(i) A system must notify the Division by the end of the day when the system learns of an *E. coli* MCL violation, unless the system learns of the violation after the Division office is closed and the Division does not have either an after-hours phone line or an alternative notification procedure, in which case the system must notify the Division before the end of the next business day, and notify the public in accordance with Rule 391-3-5-.32.
(ii) A system must notify the Division by the end of the day when the system is notified of an *E. coli*-positive routine sample, unless the system is notified of the result after the Division office is closed and the Division does not have either an after-hours phone line or an alternative notification procedure, in which case the system must notify the Division before the end of the next business day.
2. A system that has violated the treatment technique for coliforms in paragraph (9) must report the violation to the Division no later than the end of the next business day after it learns of the violation, and notify the public in accordance with Rule 391-3-5-.32.
3. A system required to conduct an assessment under the provisions of paragraph (9) must submit the assessment report within 30 days. The system must notify the Division

in accordance with paragraph (9)(c) when each scheduled corrective action is completed for corrections not completed by the time of submission of the assessment form.

4. A system that has failed to comply with a coliform monitoring requirement must report the monitoring violation to the Division within 10 days after the system discovers the violation, and notify the public in accordance with Rule 391-3-5-.32.

5. A seasonal system must certify, prior to serving water to the public, that it has complied with the Division-approved start-up procedure.

(b) *Recordkeeping*.

1. The system must maintain any assessment form, regardless of who conducts the assessment, and documentation of corrective actions completed as a result of those assessments, or other available summary documentation of the sanitary defects and corrective actions taken under paragraph (9) for Division review. This record must be maintained by the system for a period not less than five years after completion of the assessment or corrective action.

2. The system must maintain a record of any repeat sample taken that meets Division criteria for an extension of the 24-hour period for collecting repeat samples as provided for under paragraph (8)(a)1.

Authority: O.C.G.A. Sec. 12-5-170 *et seq.*