

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

The Rules of the Department of Natural Resources, Chapter 391-3-5, Rules for Safe Drinking Water are hereby amended, added to, repealed in part, and revised as follows:

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

Table of Contents there of, relating to new rules is hereby added to read as:

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Rule 391-3-5-.02 (Definitions) thereof, is hereby amended to read as follows:

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

(17) "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) "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) "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) "Compliance period" means a three-year calendar year period within a compliance cycle. Each compliance cycle has three-year compliance periods.

(21) "Comprehensive performance evaluation" (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) "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) "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) "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) "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) "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) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

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

(29) "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) "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) "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) "Department" means the Department of Natural Resources of the State of Georgia.

(33) "Diatomaceous earth filtration" means a process resulting in substantial particulate removal in which (1) a precoat 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) "Direct filtration" means a series of processes including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal.

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

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

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

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

(44) "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) "Effective corrosion inhibitor residual" for the purpose of compliance with Section 395-3-5.25, means a concentration sufficient to form a protective film on the interior walls of a pipe.

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

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

(48) "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) "EPA" means the United States Environmental Protection Agency.

(50) "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) "Federal Act" means the Federal Safe Drinking Water Act, 1974 P.L. 93-523, as amended.

(52) "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) "Filtration" means a process for removing particulate matter from water by passage through porous media.

(54) "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) "First draw sample" means a one-liter sample of tap water collected in accordance with Section 391-3-5-.25, that has been standing in the plumbing pipes at least 6 hours and is collected without flushing the tap.

(56) "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) "Flowing stream" is a course of running water flowing in a definite channel.

~~(50) "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.~~

(58) "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) "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) "Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

(61) "Gross beta particle activity" means the total radioactivity due to beta particle emission as inferred from measurement on a dry sample.

(62) "Ground water" means water obtained from wells and/or springs used as a source of water supply for a public water system.

- (63) "Ground water under the direct influence of surface water" (GWUI) 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) "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) "Halogen" means one of the chemical elements chlorine, bromine or iodine.
- (66) "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) "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) "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 A), 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.
- (69) "Initial compliance period" means the first full three-year compliance period that begins January 1, 1993.
- (70) "Inventory" for the purpose of Section 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) "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) "Large water system" for the purpose of Section 391-3-5-.25 (Lead & Copper) means a water system that serves more than 50,000 persons.
- (73) "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) "*Legionella*" means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.

(75) “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) "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) "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) "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) “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) “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 nonenforceable health goals and do not reflect the benefit of the addition of the chemical for control of waterborne microbial contamination.

(81) "Medium-size water system" for the purpose of Section 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) “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) “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) "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) "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) "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) "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) "Optimal corrosion control treatment" as it applies to Section 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) "Person" means any individual, corporation, company, association, partnership, county, municipality, State agency, State authority, Federal agency, agency, facility, or other entity.

(90) "Picocurie (pCi)" means that quantity of radioactive material producing 2.22 nuclear transformations per minute.

(91) "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) "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) "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) "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) "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) "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) "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) "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) "Repeat compliance period" means any subsequent compliance period after the initial compliance period.

(100) "Repeat sample" means a sample that is collected and analyzed in response to a previous coliform-positive sample.

(101) "Residual disinfectant concentration" ("C" in CT calculations) means the concentration of disinfectant measured in milligrams per liter in a representative sample of water.

(102) "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.

(103) "Sedimentation" means a process for removal of solids before filtration by gravity or separation.

(104) "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 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 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) "Service line sample" means a one-liter sample of water collected in accordance with Section 391-3-5-.25, that has been standing for at least 6 hours in the service line.
- (106) "Single family structure" for the purpose of compliance with Section 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) "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) "Small water system" for the purpose of Section 391-3-5-.25 (Lead & Copper), means a water system that serves 3,300 persons or fewer.
- (109) "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) "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) "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) "Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria.
- (113) "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) "Subpart H systems" means public water systems using surface water or ground water under the direct influence of surface water as a source.
- (115) "Supplier of water" or "Supplier" means any person who owns or operates a public water system.
- (116) "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) "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) "System with a single service connection" means a system, which supplies drinking water to consumers via a single service line.

(119) "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) "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) "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) "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) "Treatment Technique" means a required process intended to reduce the level of contaminants in drinking water.

(124) "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) "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) "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) "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) "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) "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 non-compliance is due to the quality of the raw water.

(130) "Virus" means a microorganism of fecal origin, which is infectious to humans by waterborne transmission.

(131) "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) "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) "Watershed Area" means the entire drainage basin upstream of a water intake located on a stream or lake.

(134) "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) "Wellhead protection area" means an area of potential ground water recharge around a well which should be protected from surface and subsurface sources of man-made pollution in order to protect the quality of drinking water supplies.

(136) "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. History. Original Rule entitled "Designation of Department as Proper Authority to Administer and Enforce Rules" adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. Repealed: New Rule entitled "Definitions" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-47. Amended: F. July 15, 1983; eff. Aug. 4, 1983. Amended: F. May 12, 1989; eff. June 1, 1989. Amended: F. Dec. 4, 1990; eff. Dec. 24, 1990. Repealed: New Rule same title adopted. F. June 25, 1992; eff. July 15, 1992. Repealed: New Rule, same title, adopted. F. June 7, 1993; eff. June 27, 1993. Repealed: New Rule, same title, adopted. F. Mar. 10, 1994; eff. Mar. 30, 1994. Amended F. Sept. 26, 1997; eff. Oct. 16, 1997. Amended: F. Sept. 24, 1999; eff. Oct. 14, 1999. Amended: F. Sept. 29, 2000; eff. Oct. 19, 2000. Amended: F. Dec. 10, 2002; eff. Dec. 30, 2002. Amended: F. Dec. 21, 2004; eff. Jan. 10, 2005.

Rule 391-3-5-.06 (Source of Water Supply) thereof, is hereby amended to read as follows:

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 through 1973) or surface water (Georgia Water Quality Control Act, 1977 amendment) 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 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.

(e) The Division may direct that a ground water source be evaluated for the influence of surface water. Within 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. History. Original Rule entitled "Engineering Report" adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. Repealed: New Rule entitled "Source of Water Supply" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by R. 391-3-5-.47. Amended: F. July 15, 1983; eff. Aug. 4, 1983. Amended: F. May 12, 1989; eff. June 1, 1989. Amended: F. Dec. 4, 1990; eff. Dec. 24, 1990. Amended: F. Mar. 10, 1994; eff. Mar. 30, 1994. Amended: F. Sept. 26, 1997; eff. Oct. 16, 1997. Amended: F. Dec. 10, 2002; eff. Dec. 30, 2002.

Rule 391-3-5-.15 (Record Maintenance) thereof, is hereby amended to read as follows:

(1) Any supplier of water shall retain on its premises or at a convenient location near its premises, the following records:

(a) Records of microbiological analyses and turbidity analyses made pursuant to these rules shall be kept for not less than 5 years. Records of chemical analyses made pursuant to these rules shall be kept for not less than 10 years. Actual laboratory reports may be kept, or data may be transferred to tabular summaries, provided that the following information is included:

1. the date, place and time of sampling and the name of the person who collected the sample;
2. identification of the sample as to whether it was routine distribution system sample, check sample, raw or drinking water sample or other special purpose sample;
3. date of analysis;
4. laboratory and person responsible for performing analysis;
5. the analytical technique/method used; and
6. the results of the analysis.

(b) Records of action taken by the system to correct violations of these rules shall be kept for a period not less than 3 years after the last action taken with respect to the particular violation involved.

(c) Copies of any written reports, summaries or communications relating to sanitary surveys of the system conducted by the system itself, by a private consultant, or by any local, state or federal agency, shall be kept for a period not less than 10 years after completion of the sanitary survey involved.

(d) Records concerning a variance or exemption granted to the system shall be kept for a period ending not less than 5 years following the expiration of such variance or exemption.

(e) Any system subject to the lead and copper requirements shall retain on its premises original records of all sampling data, analyses, reports, surveys, letters, evaluations, schedules, Division determinations, and any other information required by Section 391-3-5-.25 or .30. Each water system shall retain the records required by this rule for no fewer than 12 years.

(f) Systems must maintain the results of individual filter monitoring taken under Rule 391-3-5-.20(9)(c) and (10)(h) for at least 3 years.

(g) Any system subject to disinfection profiling and benchmarking shall keep the results of the profile and the benchmark (including raw data and analysis) indefinitely.

(h) Copies of monitoring plans developed pursuant to this part shall be kept for the same period of time as the records of analyses taken under the plan are required to be kept under paragraph (1)(a) of this section, except as specified elsewhere in this part.

Authority O.C.G.A. Sec. 12-5-170 et seq. History. Original Rule entitled "Operation" adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. Repealed: New Rule entitled "Record Maintenance" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. Amended: F. June 25, 1992; eff. July 15, 1992. Amended: F. Sept. 29, 2000; eff. Oct. 19, 2000. Amended: F. Dec. 10, 2002; eff. Dec. 30, 2002.

Rule 391-3-5-.18 (Primary Maximum Contaminant Levels for Drinking Water) thereof, is hereby amended to read as follows:

(1) INORGANICS - The maximum contaminant levels (MCLs) for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, mercury, nickel, selenium and thallium of this section apply to community water systems and non-transient, non-community water systems. The MCLs for fluoride in this section apply to community water systems. The MCLs for nitrate, nitrite, and total nitrate- nitrite of this section apply to all (CWS, NTNCWS, TNCWS) public water systems.

(a) The following are the maximum contaminant levels for inorganic chemicals:

CONTAMINANT	MAXIMUM CONTAMINANT LEVEL (MCL) (mg/L)	APPLICABLE SYSTEMS

Antimony	0.006	CWS, NTNCWS
Arsenic ³	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
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 391-3-5-.19 (2)).
 3. The enforcement date for the 0.010mg/l MCL is January 23, 2006.

(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) 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 391-3-5-.22.

Synthetic Organic Chemicals, Pesticides and Polychlorinated biphenyls

CONTAMINANT	MCL(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
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

(b) Volatile Organic Contaminants (VOCs)

CONTAMINANT	MCL(mg/L)
1 Vinyl chloride	0.002
2 Benzene	0.005
3 Carbon tetrachloride	0.005
4 1,2-Dichloroethane	0.005

5 Trichloroethylene	0.005
6 para-Dichlorobenzene	0.075
7 1,1-Dichloroethylene	0.007
8 1,1,1-Trichloroethane	0.2
9 cis-1,2-Dichloroethylene	0.07
10 1,2-Dichloropropane	0.005
11 Ethylbenzene	0.7
12 Monochlorobenzene	0.1
13 o-Dichlorobenzene	0.6
14 Styrene	0.1
15 Tetrachloroethylene	0.005
16 Toluene	1
17 trans-1,2-Dichloroethylene	0.1
18 Xylenes (total)	10
19 Dichloromethane	0.005
20 1,2,4-Trichlorobenzene	0.07
21 1,1,2-Trichloroethane	0.005

(3) TURBIDITY - Treatment Technique Requirements:

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

(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 units 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, 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) MICROBIOLOGICAL - Maximum contaminant levels (MCLs) for microbiological contaminants.

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

1. For a system which 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 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) 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 391-3-5-.32, this is a violation that may pose an acute risk to health.

(c) A public water system must determine compliance with the MCL for total coliforms in paragraphs (a) and (b) of this Section for each month in which it is required to monitor for total coliforms.

(5) 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:

1. combined Radium-226 and Radium-228 — 5 pCi/l.

2. gross alpha particle activity (including Radium-226 but excluding Radon and Uranium) — 15 pCi/l.

3. Uranium – 30 ug/L

(b) The average annual concentration of beta particle and photon radioactivity from man-made 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	pCi per liter
Tritium	TotalBody	20,000
Strontium-90	Bone Marrow	8

6) TRIHALOMETHANES - Maximum contaminant level for trihalomethanes. (see section 7 below).

~~(a) The maximum contaminant level for total trihalomethanes (TTHM) in subparagraph (6)(b) of Section 391-3-5-18 applies only to community water systems which serve a population of 10,000 or more individuals and which add a disinfectant (oxidant) to the water in any part of the drinking water treatment process. Compliance with the maximum contaminant level for total trihalomethanes is calculated pursuant to subparagraph (4)(h) 391-3-5-24.~~

~~(b) Total trihalomethanes [the sum of the concentrations of bromodichloromethane, dibromochloromethane, tribromomethane (bromoform) and trichloromethane (chloroform)] 0.10 mg/l.~~

~~(c) Until December 31, 2001, the maximum contamination level of 0.10 mg/l for total trihalomethanes shall apply to subpart H community water systems (public water systems using surface water or ground water under the direct influence of surface water as a source) which serve a population of 10,000 people or more.~~

~~(d) Until December 31, 2003, the maximum contamination level of 0.10 mg/l for total trihalomethanes shall apply to community water systems that use only ground water not under the direct influence of surface water and serve a population of 10,000 people or more.~~

(7) Disinfectants and Disinfection Byproducts (D/DBPs). Beginning January 1, 2002, this section 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	MCL (mg/L)
Total trihalomethanes (TTHM)	0.080
Haloacetic acids (five) (HAA5)	0.060
Bromate	0.010
Chlorite	1.0

Disinfectant residual	MRDL (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 nontransient, noncommunity Subpart H water systems which serve a population of 10,000 people or more must comply with this section.

(c) Beginning January 1, 2004, community and nontransient, noncommunity 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.

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

(e) Transient noncommunity 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.

(f) Transient noncommunity 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.

(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, 141.53, and 141.54.

(9) 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(c).

Authority O.C.G.A. Sec. 12-5-170 et seq. History. Original Rule entitled "Operating Records" adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. Repealed: New Rule entitled "Primary Maximum Contaminant Levels for Drinking Water" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. Amended: F. July 15, 1983; eff. Aug. 4, 1983. Repealed: New Rule of same title adopted. F. May 12, 1989; eff. June 1, 1989. Amended: F. Dec. 4, 1990; eff. Dec. 24, 1990. Repealed: New Rule, same title adopted. F. June 25, 1992; eff. July 15, 1992. Repealed: New Rule of same title adopted. F. Mar. 10, 1994; eff. Mar. 30, 1994. Amended: F. Sept. 26, 1997; eff. Oct. 16, 1997. Amended: F. Sept. 29, 2000; eff. Oct. 19, 2000. Amended: F. June 8, 2001; eff. June 28, 2001. Amended: F. Dec. 10, 2002; eff. Dec. 30, 2002. Amended: F. Dec. 21, 2004; eff. Jan. 10, 2005.

Rule 391-3-5-.23 (Coliform Sampling) thereof, is hereby amended to read as follows:

(1) Routine 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
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

¹Includes 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 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. 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. 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.

(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, 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, 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.

(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) Public water systems which do not collect five or more routine samples per month must undergo an initial sanitary survey by June 29, 1994 for community public water systems and June 24, 1999 for non-community water systems. Thereafter, systems must undergo another sanitary survey every five years, except that non-community water systems using only protected and disinfected ground water, as defined by the Division, must undergo subsequent sanitary surveys at least every ten years after the initial sanitary survey. All ground water systems must undergo sanitary surveys no less frequently than every three years for community systems, except as provided in paragraph (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 (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 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.

~~(b)-(c)~~ All surface water systems (including groundwater 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.

~~(c)~~ (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 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.

Authority O.C.G.A. Sec. 12-5-170 et seq. History. Original Rule entitled "Alternative Analytical Techniques" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. Repealed: New Rule entitled "Microbiological Contaminant Sampling and Analytical Requirements" adopted. F. May 12, 1989; eff. June 1, 1989. Repealed: New Rule entitled "Coliform Sampling" adopted. F. Dec. 4, 1990; eff. Dec. 24, 1990. Amended: F. Sept. 26, 1997; eff. Oct. 16, 1997. Amended: F. June 8, 2001; eff. June 28, 2001.

Rule 391-3-5-.24 (Total Trihalomethanes Sampling, Analytical and Other Requirements)

thereof, is hereby amended to read as follows:

(1) Purpose. The purpose of this Rule is to provide for the procedures for establishing maximum contaminant levels, monitoring and other requirements for trihalomethanes. ~~Until December 31, 2001, the requirements stated under (2) of this section shall apply to Subpart H community water systems that serve 10,000 or more people. In addition, until December 31, 2003, the requirements stated under (2) of this section shall apply to community water systems which use only ground water not under the direct influence of surface water that add a disinfectant (oxidant) in any part of the treatment process and serve a population of 10,000 or more. After December 31, 2003, the requirements under (2) of this section are no longer applicable.~~

~~(2) Total trihalomethanes sampling, analytical and other requirements.~~

~~(a) Community water systems which serve a population of 10,000 or more individuals and which add a disinfectant (oxidant) to the water in any part of the drinking water~~

treatment process shall analyze for total trihalomethanes in accordance with this rule. For the purpose of this rule, the minimum number of samples required to be taken by the system shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer may, with the Division's approval, be considered one treatment plant for determining the minimum number of samples. All samples taken within an established frequency shall be collected within a 24-hour period. For systems serving 75,000 or more individuals, sampling and analyses shall begin not later than November 29, 1980. For systems serving 10,000 to 74,999 individuals, sampling and analyses shall begin not later than November 29, 1982.

(b) For all community water systems utilizing surface water sources in whole or in part, and for all community water systems utilizing only ground water sources that have not been determined by the Division to qualify for the monitoring requirements of subparagraphs (2)(f) and (2)(g) of Section 391-3-5-.24, analyses for total trihalomethanes shall be performed at quarterly intervals on at least four water samples for each treatment plant used by the system. At least 25 percent of the samples shall be taken at locations within the distribution system reflecting the maximum residence time of the water in the system. The remaining 75 percent shall be taken at representative locations in the distribution system, taking into account number of persons served, different sources of water and different treatment methods employed. The results of all analyses per quarter shall be arithmetically averaged and reported to the Division within 30 days of the system's receipt of such results. All samples collected shall be used in the computation of the average;

(c) If the results of an analysis made pursuant to subparagraph (4)(h) of Section 391-3-5-.24 indicates that the level of total trihalomethanes exceeds the maximum contaminant level, the supplier of water shall report to the Division within 7 days and initiate three additional analyses within one month.

(d) Upon the written request of a community water system, the monitoring frequency required by subparagraph (2)(b) of Section 391-3-5-.24 may be reduced by the Division to a minimum of one sample analyzed for TTHMs per quarter taken at a point in the distribution system reflecting the maximum residence time of the water in the system, upon a written determination by the Division that the data from at least one year of monitoring in accordance with subparagraph (2)(b) of Section 391-3-5-.24 and local conditions demonstrate that total trihalomethane concentrations will be consistently below the maximum contaminant level.

(e) If at any time during the reduced monitoring frequency the results from any analysis exceed 0.10 mg/l of TTHMs and such results are confirmed by at least one check sample taken promptly after such results are received, or if the system makes any significant change to its source of water or treatment program, the system shall immediately begin monitoring in accordance with the requirements of subparagraph (2)(b) of Section 391-3-5-.24, which monitoring shall continue for at least one year before the frequency may be reduced again. At the option of the Division, a system's monitoring frequency may and should be increased above the minimum in those cases where it is necessary to detect variations of TTHM levels within the distribution system.

(f) Upon written request to the Division, a community water system utilizing only ground water sources may seek to have the monitoring frequency required by subparagraph (2)(b) of Section 391-3-5-.24 reduced to a minimum of one sample for maximum TTHM potential per year for each treatment plant used by the system taken at a point in the distribution system reflecting maximum residence time of the water in the system. The system shall submit to the Division the results of at least one sample analyzed for maximum TTHM potential for each treatment plant used by the system taken at a point in the distribution system reflecting the maximum residence time of the water in the system.

The system's monitoring frequency may only be reduced upon a written determination by the Division that, based upon the data submitted by the system, the system has a maximum TTHM potential of less than 0.10 mg/l and that, based upon an assessment of the local conditions of the system, the system is not likely to approach or exceed the maximum contaminant level for total TTHMs. The results of all analyses shall be reported to the Division within 30 days of the system's receipt of such results. All samples collected shall be used for determining whether the system must comply with the monitoring requirements of subparagraph (2)(b) of Section 391-3-5-.24, unless the analytical results are invalidated for technical reasons.

(g) If at any time during which the reduced monitoring frequency the results from any analysis taken by the system for maximum TTHM potential are equal to or greater than 0.10 mg/l, and such results are confirmed by at least one check sample taken promptly after such results are received, the system shall immediately begin monitoring in accordance with the requirements of subparagraph (2)(b) of Section 391-3-5-.24 and such monitoring shall continue for at least one year before the frequency may be reduced again. In the event of any significant change to the system's raw water or treatment program, the system shall immediately analyze an additional sample for maximum TTHM potential taken at a point in the distribution system reflecting maximum residence time of the water in the system for the purpose of determining whether the system must comply with the monitoring requirements of subparagraph (2)(b) of Section 391-3-5-.24. At the option of the Division, monitoring frequencies may and should be increased above the minimum in those cases where this is necessary to detect variation of TTHM levels within the distribution system.

(h) Compliance with subparagraph (7)(b) of Section 391-3-5-.18 shall be determined based on a running annual average of quarterly samples collected by the system as prescribed in subparagraphs (2)(b) and (2)(d) of Section 391-3-5-.24. If the average of samples covering any 12-month period exceeds the Maximum Contaminant Level, the supplier of water shall report to the Division pursuant to Section 391-3-5-.30 and notify the public pursuant to Rule 391-3-5-.32. Monitoring after public notification shall be at a frequency designated by the Division and shall continue until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

(i) Sampling and analyses made pursuant to this rule shall be conducted in accordance with 40 CFR Part 141.30. Samples for TTHM shall be dechlorinated upon collection to prevent further production of Trihalomethanes. Samples for maximum TTHM potential should not be dechlorinated, and should be held for seven days at 25o C (or above) prior to analysis.

(j) Before a community water system makes any significant modifications to its existing treatment process for the purposes of achieving compliance with subparagraph (2)(b) of Section 391-3-5-.24, such system must submit and obtain Division approval of a detailed plan setting forth its proposed modification and those safeguards that it will implement to ensure that the bacteriological quality of the drinking water served by such system will not be adversely affected by such modification. Each system modifying its disinfection practice shall:

1. Evaluate the water system for sanitary defects and evaluate the source of water quality for biological quality.
2. Evaluate its existing treatment practices and consider improvements that will minimize disinfectant demand and optimize finished water quality throughout the distribution system.
3. Provide baseline water quality survey data of the distribution system. Such data should include the results from monitoring for coliform and fecal coliform bacteria, fecal streptococci, standard plate counts at 35o C and 20o C, phosphate, ammonia nitrogen and

~~total organic carbon. Virus studies may be required where sources of water supply are heavily contaminated with sewage effluent.~~

~~4. Conduct additional monitoring to assure continued maintenance of optimal biological quality in finished water, for example, when chloramines are introduced as disinfectants or when pre-chlorination is being discontinued. Additional monitoring may also be required by the Division for chlorate, chlorite and chlorine dioxide when chlorine dioxide is used as a disinfectant. Standard plate count analyses may also be required by the Division as appropriate before and after any modifications.~~

~~5. Demonstrate an active disinfectant residual throughout the distribution system at all times during and after the modification.~~

~~(3) (2) Variances from the maximum contaminant level for total trihalomethanes shall be conducted in accordance with 40 CFR, Part 142.60.~~

~~(4) (3) Disinfectant Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors.~~

(a) Community water systems and nontransient, noncommunity 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 noncommunity 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 nontransient, noncommunity Subpart H water systems must comply with the requirements of this section, as specified in subparagraphs (7)(b) and (7)(c) of Rule 391-3-5-.18, respectively.

(d) Beginning January 1, 2002, transient noncommunity 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.

(e) Beginning January 1, 2004, transient noncommunity 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.

(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 crossconnection events.

(g) Systems must use the analytical method(s) specified in 40 CFR § 141.131 to demonstrate compliance with the requirements of this section. 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, the water systems must monitor the applicable parameters included in this section 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 to qualify for reduced monitoring.
4. Each system required to monitor under this section 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; 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 30 days following applicable compliance dates stated in (c) of this section.

(ii) All Subpart H systems serving more than 3300 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.

~~(5)~~ (4) 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).

~~(6)~~ (5) 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).

~~(7)~~ (6) 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).

~~(8)~~ (7) 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.

~~(9)~~ (8) All samples taken and analyzed under the provisions of this section must be included in determining compliance, even if that number is greater than the minimum required. Compliance requirements specified in 40 CFR, Subpart L § 141.133 is hereby incorporated by reference.

~~(10)~~ (9) Treatment techniques for control of disinfection byproduct precursors requirements specified in 40 CFR, Subpart L § 141.135 is hereby incorporated by reference.

(i) 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 (iv) of this section unless the system meets at least one of the alternative compliance criteria specified in (ii) or (iii) of this section.

(ii) Alternative compliance criteria for enhanced coagulation and enhanced softening systems: 40 CFR, Subpart L § 141.135(a)(2) is hereby incorporated by reference.

(iii) Additional alternative compliance criteria for softening systems: 40 CFR, Subpart L, § 141.135(a)(3) is hereby incorporated by reference.

(iv) Enhanced coagulation and enhanced softening performance requirements: 40 CFR, Subpart L § 141.135(b) is hereby incorporated by reference.

(v) Compliance calculations: 40 CFR, Subpart L § 141.135(c) is hereby incorporated by reference.

(vi) Treatment technique requirements for disinfection byproduct precursors: 40 CFR, Subpart L § 141.135(d) is hereby incorporated by reference.

(vii) Required additional health information: 40 CFR § 141.154 is hereby incorporated by reference.

Authority O.C.G.A. Sec. 12-5-170 et seq. History. Original Rule entitled "Laboratory Approval" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. Repealed: New Rule of same title adopted. F. July 15, 1983; eff. Aug. 4, 1983. Repealed: New Rule entitled "Trihalomethanes" adopted. F. May 12, 1989. eff. June 1, 1989. Amended: F. Dec. 4, 1990; eff. Dec. 24, 1990. Repealed: New Rule entitled "Total Trihalomethanes Sampling, Analytical and Other Requirements" adopted. F. June 25, 1992; eff. July 15, 1992. Amended: F. Sept. 26, 1997; eff. Oct. 16, 1997. Amended: F. Sept. 29, 2000; eff. Oct. 19, 2000. Amended: F. June 8, 2001; eff. June 28, 2001.

Rule 391-3-5-.25 (Treatment Techniques, Lead and Copper Requirements) thereof, is hereby amended to read as follows:

(1) General requirements.

(a) These requirements constitute the primary drinking water rules for lead and copper. Unless otherwise indicated, each of these provisions applies to community water systems and non-transient, non-community water systems (hereinafter referred to as “water systems” or “systems”).

~~(a) The requirements set forth in Section 391-3-5-.25(7) through (12) shall take effect July 30, 1992. The requirements in Section 391-3-5-.25(2) through (6) shall take effect on December 7, 1992.~~

(b) These rules establish a treatment technique that includes requirements for corrosion control treatment, source water treatment, lead service line replacement, and public education. These requirements are triggered, in some cases, by lead and copper action levels measured in samples collected at consumers’ taps.

(c) Lead and copper action levels:

1. The lead action level is exceeded if the concentration of lead in more than 10 percent of tap water samples collected during any monitoring period conducted in accordance with Section 391-3-5-.25(7) is greater than 0.015 mg/L.

2. The copper action level is exceeded if the concentration of copper in more than 10 percent of tap water samples collected during any monitoring period conducted in accordance with Section 391-3-5-.25(7) is greater than 1.3 mg/L.

3. Calculation of the lead and copper action levels shall be based on the “90th percentile” rule in accordance with 40 CFR, Part 141.80(c)(3).

(d) Corrosion control treatment requirements:

1. All water systems shall install and operate optimal corrosion control treatment as defined in Section 391-3-5-.02(73).

2. Any water system that complies with the applicable corrosion control treatment requirements specified by the Division under Section 391-3-5-.25(2) and (3) shall be deemed in compliance with the treatment requirement contained in paragraph (d)(1) of this section.

(e) Source water treatment requirements; Any system exceeding the lead or copper action level shall implement all applicable source water treatment requirements specified by the “Division” under Section 391-3-5-.25(4).

(f) Lead service line replacement requirements; Any system exceeding the lead action level after implementation of applicable corrosion control and source water treatment requirements shall complete the lead service replacement requirements contained in Section 391-3-5-.25(5).

(g) Public education requirements; Pursuant to 40 CFR, part 141.85, all water systems must provide a consumer notice of lead tap water monitoring results to persons served at the sites/taps that are tested. Any system exceeding the lead action level shall implement the public education requirements contained in Section 391-3-5-.25(6).

(h) Monitoring and analytical requirements; Tap water monitoring for lead and copper, monitoring for water quality parameters, source water monitoring for lead and copper, and analyses of the monitoring results under this subpart shall be completed in compliance with Section 391-3-5-.25(7-10).

(i) Reporting requirements; Systems shall report to the Division any information required by the treatment provisions of this subpart and Section 391-3-5-.30(7).

(j) Record keeping requirements; Systems shall maintain records in accordance with Section 391-3-5-.15.

(k) Violation of national primary drinking water regulations; Failure to comply with the applicable requirements of Section 391-3-5-.25(1-10), including requirements established by the Division pursuant to the provisions, shall constitute a violation of the national primary drinking water regulations for lead and/or copper.

(l) The maximum contaminant level goals (MCLGs) for lead and copper are as follows:

Contaminant	MCLG (mg/l)
Copper	1.3
Lead	zero

(2) Applicability of corrosion control treatment steps to small, medium-size and large water systems.

(a) Systems shall complete the applicable corrosion control treatment requirements described in Section 391-3-5-.25(3) by the deadlines established in this section.

1. A large system (serving > 50,000 persons) shall complete the corrosion control treatment steps specified in paragraph (d) of this section, unless it is deemed to have optimized corrosion control under paragraph (b)(2) or (b)(3) of this section.

2. A small system (serving <3301 persons) and a medium-size system (serving >3,300 and <50,001 persons) shall complete the corrosion control treatment steps specified in paragraph (d) of this section, unless it is deemed to have optimized corrosion control under paragraph (b)(1), (b)(2), or (b)(3) of this section.

(b) A system is deemed to have optimized corrosion control and is not required to complete the applicable control treatment steps identified in this section if the system satisfies one of the criteria specified in paragraphs (b)(1) through (b)(3) of this section. Any such system deemed to have optimized corrosion control under this paragraph, and which has treatment in place, shall continue to operate and maintain optimal corrosion control treatment and meet any requirements that the State determines appropriate to ensure optimal corrosion control treatment is maintained.

1. A small or medium-size water system is deemed to have optimized corrosion control if the system meets the lead and copper action levels during each of two consecutive six-month monitoring periods conducted in accordance with Section 391-3-5-.25(7).

2. Any water system may be deemed by the Division to have optimized corrosion control treatment if the system demonstrates to the satisfaction of the Division that it has conducted activities equivalent to the corrosion control steps applicable to such system under this section. If the Division makes this determination, it shall provide the system with written notice explaining the basis for its decision and shall specify the water quality control parameters representing optimal corrosion control in accordance with Section 391-3-5-.25(3). Water systems deemed to have optimized corrosion control under this paragraph shall operate in compliance with the Division designated optimal water quality control parameters in accordance with 391-3-5-.25(8)(c)(1) and continue to conduct lead and copper tap water quality parameter sampling in accordance with Rule 391-3-5-.25(8)(d). A system shall provide the Division with the following information in order to support a determination under this paragraph.

(i) the results of all test samples collected for each of the water quality parameters in Section 391-3-5-.25(3).

(ii) a report explaining the test methods used by the water system to evaluate the corrosion control treatments listed in Section 391-3-5-.25(3), the results of all tests conducted, and the basis for the system's selection of optimal corrosion control treatment.

(iii) a report explaining how corrosion control has been installed and how it is being maintained to insure minimal lead and copper concentrations at consumers' taps.

(iv) the results of tap water samples collected in accordance with Section 391-3-5-.25(7) at least once every six months for one year after corrosion control has been installed.

3. Any water system is deemed to have optimized corrosion control if it submits results of tap water monitoring conducted in accordance with Section 391-3-5-.25(7) and source water monitoring conducted in accordance with Section 391-3-5-.25(9) that demonstrates for two consecutive six-month monitoring periods that the difference between the 90th percentile tap water lead level computed under Section 391-3-5-.25(1)(c)(3), and the highest source water lead concentration, is less than the Practical Quantitation Level for lead specified in Section 391-3-5-.25(10).

(i) Those systems whose highest source water lead level is below the Method Detection Limit may also be deemed to have optimized corrosion control under this paragraph if the 90th percentile tap water lead levels is less than or equal to the Practical Quantitation Level for the lead for two consecutive 6-month monitoring periods.

(ii) Any system deemed to have optimized corrosion control in accordance with this paragraph shall continue monitoring for lead and copper at the tap no less frequently than once every three calendar years using the reduced number of sites specified in Rule 391-3-5-.25(7)(c) and collecting samples at times and locations specified in Rule 391-3-5-.25(7)(d)(4).

(iii) Any water system deemed to have optimized corrosion control pursuant to this paragraph shall notify the Division in writing pursuant to Rule 391-3-5-.25(11) of any upcoming long-term change in treatment or ~~the~~ addition of a new source. The Division must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The Division may require any system to conduct additional monitoring or to take other action the Division deems

appropriate to ensure that such systems maintain minimal levels of corrosion in the distribution system.

(iv) As of July 12, 2001, a system is not deemed to have optimized corrosion control under this paragraph, and shall implement corrosion control treatment pursuant to paragraph (2)(b)(3)(v) of this section unless it meets the copper action level.

(v) Any system triggered into corrosion control because it is no longer deemed to have optimized corrosion control under this paragraph shall implement corrosion control treatment in accordance with the deadlines in paragraph (d) of this section. Any such large system shall adhere to schedule specified in that paragraph for medium-size systems, with the time periods for completing each step being triggered by the date the system is no longer deemed to have optimized corrosion control under this paragraph.

(c) Any small or medium-size water system that is required to complete the corrosion control steps due to its exceedance of the lead or copper action level may request approval from the Division to cease completing the treatment steps if whenever the system meets both lead and copper action levels during each of two consecutive monitoring periods conducted pursuant to Section 391-3-5-.25(7) and submits the results to the Division. If approval is granted, any such water system thereafter exceeds the lead or copper action level during any monitoring period, the system (or the Division, as the case may be) shall recommence completion of the applicable treatment steps, beginning with the first treatment step which was not previously completed in its entirety. The Division may require a system to repeat treatment steps previously completed by the system where the Division determines that this is necessary to implement properly the treatment requirements of this section. ~~The Division shall notify the system in writing of such a determination and explain the basis for its decision.~~

(d) Treatment steps and deadlines for all systems affected by this rule shall be in accordance with 40 CFR, Part 141.81(d) and (e).

(3) Description of corrosion control treatment requirements. Each system shall complete the corrosion control treatment requirements as described and in accordance with 40 CFR Part 141.82 and as approved by the Division.

(4) Source water treatment requirements. Systems shall complete the applicable source water monitoring and treatment requirements, described in the referenced portions of paragraph (b) of this section, and in Section 391-3-5-.25(7) and (9) by the following deadlines.

(a) Deadlines for Completing Source Water Treatment Steps.

1. Step 1: A system exceeding the lead or copper action level shall complete lead and copper source water monitoring (Section 391-3-5-.25(9)(b)) and make a treatment recommendation to the Division (Section 391-3-5-.25(4)(b)(1)) no later than 180 days within 6 months after the end of the monitoring period in which exceeding the lead or copper action level- was exceeded.

2. Step 2: The Division shall make a determination regarding source water treatment (Section 391-3-5-.25(4)(b)(2)) within 6 months after submission of monitoring results under Step 1.

3. Step 3: If the Division requires installation of source water treatment, the system shall install the treatment (Section 391-3-5-.25(4)(b)(3)) within 24 months after completion of Step 2.

4. Step 4: The system shall complete follow-up tap water monitoring for lead and copper (Section 391-3-5-.25(7)(d)(2)) and source water monitoring for lead and copper (Section 391-3-5-.25(9)(c)) within 36 months after completion of Step 2.

5. Step 5: The Division shall review the system's installation and operation of source water treatment and specify maximum permissible source water levels (Section 391-3-5-.25(4)(b)(4)) within 6 months after completion of Step 4.

6. Step 6: The system shall operate in compliance with the Division specified maximum permissible lead and copper source water levels (Section 391-3-5-.25(4)(b)(4)) and continue source water monitoring for lead and copper (Section 391-3-5-.25(9)(d)).

(b) Description of Source Water Treatment Requirements:

1. System treatment recommendation. Any system which exceeds the lead or copper action level shall recommend in writing to the Division the installation and operation of one of the source water treatments listed in paragraph (b)(2) of this section. A system may recommend that no treatment be installed based upon a demonstration that source water treatment is not necessary to minimize lead and copper levels at users' taps.

2. Division determination regarding source water treatment. The Division shall complete an evaluation of the results of all source water samples submitted by the water system to determine whether source water treatment is necessary to minimize lead or copper levels in water delivered to users' taps. If the Division determines that treatment is needed, the Division shall either require installation and operation of the source water treatment recommended by the system (if any) or require the installation and operation of another source water treatment such as: from among the following: ion exchange, reverse osmosis, lime softening or coagulation/filtration. If the Division requests additional information to aid in its review, the water system shall provide the information by the date specified by the Division in its request. The Division shall notify the system in writing of its determination and set forth the basis for its decision.

3. Installation of source water treatment. Each system shall properly install and operate the source water treatment designated by the Division under paragraph (b)(2) of this section.

4. Division review of source water treatment and specification of maximum permissible source water levels. The Division shall review the source water samples taken by the water system both before and after the system installs source water treatment, and determine whether the system has properly installed and operated the source water treatment designated by the Division. Based upon its review, the Division shall designate the maximum permissible lead and copper concentrations for finished water entering the distribution system. Such levels shall reflect the contaminant removal capability of the treatment properly operated and maintained. The Division shall notify the system in writing and explain the basis for its decision.

5. Continued operation and maintenance. Each water system shall maintain lead and copper levels below the maximum permissible concentrations designated by the Division at each sampling point monitored in accordance with Section 391-3-5-.25(9). The system is out of compliance with this paragraph if the level of lead and / or copper at any sampling point is greater than the maximum permissible concentration designated by the Division.

6. Modification of Division treatment decisions. Upon its own initiative or in response to a request by a water system or other interested party, the Division may modify its determination of the source water treatment under paragraph (2) of this section, or maximum permissible lead and copper concentrations for finished water entering the distribution system under paragraph (4) of this section. A request for modification by a system or other interested party shall be in writing, explain why the modification is appropriate, and provide supporting documentation. The Division may modify its determination where it concludes that such change is necessary to ensure that the system continues to minimize lead and copper concentrations in source water. A revised determination shall be made in writing, set forth the new treatment requirements, explain the basis for the Division's decision, and provide an implementation schedule for completing the treatment modifications.

7. EPA may review treatment determinations made by the Division and issue federal treatment determinations as outlined in 40 CFR, Part 141.83(b)(7).

(5) Lead service line replacement requirements. Systems may be required to replace lead service lines when they fail to meet the lead action level in tap samples. 40 CFR, Part 141.84 describes the conditions that will require lead service line replacement.

(6) Public educational and supplemental monitoring requirements. All water systems must deliver a consumer notice of lead tap water monitoring results to persons served by the water system at the sites/taps that are tested. A water system that exceeds the lead action level based on tap water samples collected in accordance with Section 391-3-5-.25(7) shall carry out a public education program as described in 40 CFR, Part 141.85.

(7) Monitoring requirements for lead and copper in tap water.

(a) Sample site location.

1. By the applicable date for commencement of monitoring under paragraph (d)(1) of this section, each water system shall complete a materials evaluation of its distribution system. In order to identify a pool of targeted sampling sites that meets the requirements of this section, and which is sufficiently large to ensure that the water system can collect the number of lead and copper tap samples required in paragraph (c) of this section. All sites from which first draw samples are collected shall be selected from this pool of targeted sampling sites. Sampling sites may not include faucets that have point-of- use or point-of-entry treatment devices. ~~designed to remove inorganic contaminants.~~

2. A water system shall use the information on lead, copper, and galvanized steel that it is required to collect under Section 391-3-5-.26(3) of this part [special monitoring for corrosivity characteristics] when conducting a materials evaluation. When an evaluation of the information collected pursuant to Section 391-3-5-.26(3) is insufficient to locate

the requisite number of lead and copper sampling sites that meet the targeting criteria in paragraph (a)(1) of this section, the water system shall review the sources of information listed below in order to identify a sufficient number of sampling sites. In addition, the system shall seek to collect such information where possible in the course of its normal operations (e.g., checking service line materials when reading water meters or performing maintenance activities):

- (i) all plumbing codes, permits, and records in the files of the building department(s) which indicate the plumbing materials that are installed within publicly and privately owned structures connected to the distribution system;
- (ii) all inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system; and
- (iii) all existing water quality information, which includes the results of all prior analyses of the system or individual structures connected to the system, indicating locations that may be particularly susceptible to high lead or copper concentrations.

3. The sampling sites selected for a community water system's sampling pool ("tier 1 sampling sites") shall consist of single family structures that:

- (i) contain copper pipes with lead solder installed after 1982 or contain lead pipes; and/or
- (ii) are served by a lead service line. When multiple-family residences comprise at least 20 percent of the structures served by a water system, the system may include these types of structures in its sampling pool.

4. Any community water system with insufficient tier 1 sampling sites shall complete its sampling pool with "tier 2 sampling sites", consisting of buildings, including multiple-family residences that:

- (i) contain copper pipes with lead solder installed after 1982 or contain lead pipes; and/or
- (ii) are served by a lead service line.

5. Any community water system with insufficient tier 1 and tier 2 sampling sites shall complete its sampling pool with "tier 3 sampling sites", consisting of single family structures that contain copper pipes with lead solder installed before 1983. A community water system with insufficient tier 1, tier 2, and tier 3 sampling sites shall complete its sampling pool with representative sites throughout the distribution system. For the purpose of this paragraph, a representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the water system.

6. The sampling sites selected for a non-transient non-community water system ("tier 1 sampling sites") shall consist of buildings that:

- (i) contain copper pipes with lead solder installed after 1982 or contain lead pipes; and/or
- (ii) are served by a lead service line.

7. A non-transient non-community water system with insufficient tier 1 sites that meet the targeting criteria in paragraph (a)(6) of this section shall complete its sampling pool with sampling sites that contain copper pipes with lead solder installed before 1983. If additional sites are needed to complete the sampling pool, the nontransient non-community water system shall use representative sites throughout the distribution system. For the purpose of this paragraph, a representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the water system.

8. Any water system whose sampling pool does not consist exclusively of tier 1 sites shall demonstrate ~~in a letter submitted~~ to the Division under Section 391-3-5-.25(11) why a review of the information listed in paragraph (a)(2) of this section was inadequate to locate a sufficient number of tier 1 sites. Any community water system which includes tier 3 or other representative sampling sites in its sampling pool shall demonstrate ~~in such a letter~~ why it was unable to locate a sufficient number of tier 1 and tier 2 sampling sites.

9. Any water system whose distribution system contains lead service lines shall draw 50 percent of the samples it collects during each monitoring period from sites that contain lead pipes, or copper pipes with lead solder, and 50 percent of those samples from sites served by a lead service line. A water system that cannot identify a sufficient number of sampling sites served by lead service line shall collect first draw samples from all of the sites identified as being served by such lines.

(b) Sample collection methods.

1. All tap samples for lead and copper collected in accordance with this subpart, with the exception of lead service line samples collected under Section 391-3-5-.25(5), shall be first draw samples.

2. Each first-draw tap sample for lead and copper shall be one liter in volume and must have stood motionless in the plumbing system of each sampling site for at least six hours. First draw samples from residential housing shall be collected from the cold-water kitchen tap or bathroom sink tap. First-draw samples from a non-residential building shall be one liter in volume and shall be collected at an interior tap from which is typically drawn for consumption. ~~Non-first draw samples collected in lieu of first draw samples pursuant to paragraph (b)(5) of this section shall be one liter in volume and shall be collected at an interior tap from which water is typically drawn for consumption.~~ First draw samples may be collected by the system or the system may allow residents to collect first draw samples after instructing the residents of the sampling procedures specified in this paragraph. ~~To avoid problems of residents handling nitric acid, acidification of first draw samples may be done up to 14 days after the sample is collected. After acidification to resolubilize the metals, the sample must stand in the original container for the time specified in the approved EPA method before the sample can be analyzed.~~ If a system allows residents to perform sampling, the system may not challenge, based on alleged errors in sample collection, the accuracy of sampling results.

3. Each service line sample shall be one liter in volume and have stood motionless in the lead service line for at least six hours. Lead service line samples shall be collected in one of the following three ways:

(i) at the tap after flushing the volume of water between the tap and the lead service line. The volume of water shall be calculated based on the interior diameter and length of the pipe between the tap and the lead service line;

(ii) tapping directly into the lead service line; or

(iii) if the sampling site is a building constructed as a single-family residence, allowing the water to run until there is a significant change in temperature which would be indicative of water that has been standing in the lead service line.

4. A water system shall collect each first draw tap sample from the same sampling site from which it collected a previous sample. If, for any reason, the water system cannot gain entry to a sampling site in order to collect a follow-up tap sample or a particular site is no longer available, the system may collect the follow-up tap sample from another sampling site in its sampling pool as long as the new site meets the same targeting criteria, and is within reasonable proximity of the original site.

5. A non-transient non-community water system, or a community water system that meets the criteria of Rule 391-3-5-.25(7)(a)(3 - 7) that does not have enough taps that can supply first-draw samples, as defined in Rule 391-3-5-.25(7)(b)(2), ~~may apply to the Division in writing to substitute non first draw samples. Such systems must collect as many first draw samples from appropriate taps as possible and identify sampling times and locations that would likely result in the longest standing time for the remaining sites. The Division has the discretion to waive the requirement for prior Division approval of non first draw sample sites selected by the system, either through Division regulation or written notification to the system.~~ must collect multiple samples from available sites/taps, provided the samples are collected at different times and/or on different days in order to meet the "first-draw"/6-hour minimum non-use time criteria.

(c) Number of samples; Water systems shall collect at least one sample during each monitoring period specified in paragraph (d) of this section from the number of sites listed in the first column below (“# of Sites Standard Monitoring”) of the table in this paragraph. A system conducting reduced monitoring under paragraph (d)(4) of this section shall collect at least one sample from the number of sites specified in the second column (“# of Sites Reduced Monitoring”) of the table in this paragraph during each monitoring period specified in paragraph (d)(4) of this section. Such reduced monitoring sites shall be representative of the sites required for standard monitoring. States may specify sampling locations when a system is conducting reduced monitoring. The table is as follows:

System Size (# of People Served)	# of Sites Standard Monitoring	# of Sites Reduced Monitoring
> 100,000	100	50
10,001-100,000	60	30
3,301-10,000	40	20
501-3,300	20	10
101-500	10	5
≤ 100	5	5

(d) Timing of monitoring.

1. Initial tap sampling; Two consecutive six-month periods, between January-June and between July-December. The first six month monitoring period for small, medium-size and large systems shall begin on the following dates:

System Size	First Six Months
# of People Served	Monitoring Begins On
> 50,000	January 1, 1992
3,301-50,000	July 1, 1992
≤ 3,300	July 1, 1993

(i) All large systems shall monitor at the required number of standard monitoring sites during two consecutive six-month periods.

(ii) All small and medium-size systems shall monitor at the required number of standard monitoring sites during each six-month monitoring period until:

(I) the system exceeds the lead or copper action level and is therefore required to implement the corrosion control treatment requirements under Section 391-3-5-.25(2), in which case the system shall continue monitoring in accordance with paragraph (d)(2) of this section, or

(II) the system meets the lead or copper action levels during two consecutive six-month monitoring periods, in which case the system may reduce monitoring in accordance with paragraph (d)(4) of this section.

2. Monitoring after installation of corrosion control and source water treatment.

(i) Any large system which installs optimal corrosion control treatment pursuant to Section 391-3-5-.25(2)(d) shall monitor during two consecutive six-month monitoring periods by the date specified in Section 391-3-5-.25(2)(d).

(ii) Any small or medium-size system which installs optimal corrosion control treatment pursuant to Section 391-3-5-.25(2) shall monitor during two consecutive six-month monitoring periods by the date specified in Section 391-3-5-.25(2)(d).

(iii) Any system which installs source water treatment pursuant to Section 391-3-5-.25(4)(a)(3) shall monitor during two consecutive six-month monitoring periods by the date specified in Section 391-3-5-.25(4)(a)(4).

3. Monitoring after Division specifies water quality parameter values for optimal corrosion control. After the Division specifies the value for water quality control parameters under Section 391-3-5-.25(3), the system shall monitor during each subsequent six-month monitoring period, with the first monitoring period to begin on the date the Division specifies the optimal values under Section 391-3-5-.25(3).

4. Reduced monitoring.

(i) A small or medium-size water system that meets the lead and copper action levels during each of two consecutive six-month monitoring periods may reduce the number of samples ~~in~~ in accordance with paragraph (c) of this section, and reduce the frequency of sampling to once per year between the months of June and September of the calendar year immediately following the end of the second consecutive six-month monitoring period.

(ii) Any water system that meets the lead and copper action levels and maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the Division under Section 391-3-5-.25(3) during each of two consecutive six-month monitoring periods may reduce the frequency of monitoring to once per year between the months of June and September and reduce the number of lead and copper samples in accordance with paragraph (c) of this section if it receives ~~written~~ approval from the division. This sampling shall begin during the calendar year immediately following the end of the second consecutive six-month monitoring period. The Division shall review monitoring, treatment, and other relevant information submitted by the water system in accordance with 391- 3-5-.25(11) and shall ~~notify the system in writing when it~~ determines when the system is eligible to reduce the frequency of monitoring to once every three years. The Division shall review, and where appropriate, revise its determination when the system submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available.

(iii) Any water system that meets the lead and copper action levels during three consecutive years of monitoring may reduce the frequency of monitoring for lead and copper from annually to once every three years. Sampling must still occur between the months of June and September of the year in which monitoring is required. Any water system that meets the lead and copper action levels and maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the Division under Section 391-3-5-.25(3) during three consecutive years of monitoring may reduce the frequency from annually to once every three years if it receives ~~written~~ approval from the Division. Samples collected once every three years must be collected no later than every third calendar year. The Division shall review monitoring, treatment, and other relevant information submitted by the water system in accordance with 391-3-5-.25 (11) and shall notify the system in writing when it determines the system is eligible to reduce the frequency of monitoring to once every three years. The Division shall review, and where appropriate, revise its determination when the system submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available.

(iv) A water system that reduces the number and frequency of sampling shall collect these samples from sites included in the original pool of targeted sampling sites identified in paragraph (a)(1) of this section. Systems sampling annually or less frequently shall conduct the lead and copper tap sampling during the months of June, July, August or September unless the Division has approved a different sampling period in accordance with paragraph (d)(4)(iv)(1) of this section.

(1) The Division, at its discretion, may approve a different period for conducting the lead and copper tap sampling for systems collecting a reduced number of samples. Such a period shall be no longer than four consecutive months and must represent a time of normal operation where the highest levels of lead are most likely to occur. For non-

transient non-community water system that does not operate during the months of June, through September, and for which the period of normal operation where the highest levels of lead are most likely to occur is not known, the Division shall designate a period that represents a time of normal operation for the system. Any alternate reduced monitoring must meet criteria set forth in 40 CFR, part 141.86(d)(4)(iv)(A).

(2) Systems monitoring annually, that have been collecting samples during the months of June through September and that receive Division approval to alter their sample collection period under paragraph (d)(4)(iv)(1.) of this section, must collect their next round of samples during a time period that ends no later than 21 months after the previous round of sampling. Systems monitoring triennially that have been collecting samples during the months of June through September, and receive Division approval to alter the sampling collection period per paragraph (d)(4)(iv)(1) of this section, must collect their next round of samples during a time period that ends no later than 45 months after the previous round of sampling. Subsequent rounds of sampling must be collected annually or triennially, as requested by this section. Small systems with waivers, granted pursuant to paragraph (g) of this section, that have been collecting samples during the months of June through September and choose to alter their sample collection period under paragraph (d)(4)(iv)(1) of this section must collect their next round of samples before the end of the 9-year period.

(v) Any water system that demonstrates for two consecutive 6- month monitoring periods that the tap water lead level computed under Rule 391-3-5-.25(1)(c)(3) is less than or equal to 0.005 mg/L and the tap water copper level computed under Rule 391-3-5-.25(1)(c)(3) is less than or equal to 0.65 mg/L may reduce the number in accordance with paragraph (3) of this section and reduce the frequency of sampling to once every three calendar years.

(vi)(a) A small or medium-size water system subject to reduced monitoring that exceeds the lead or copper action level shall resume sampling in accordance with paragraph (d)(3) of this section and collect the number of samples for standard monitoring under paragraph (c) of this section. Such a system shall also conduct water quality parameter monitoring in accordance with 40 CFR, part 141.87(b), (c) or (d) (as appropriate) during the monitoring period in which it exceeded the action level. Any such system may resume annual monitoring for lead and copper at the tap at the reduced number of sites specified in paragraph (c) of this section after it has completed two consecutive six-month rounds of monitoring with no action level exceeded.

(b) Any water system subject to the reduced monitoring frequency that fails to meet the lead or copper action level during any four-month monitoring period or that fails to operate at or above the minimum value or within the range of values for the water quality parameters specified by the Division for more than nine days in any six-month monitoring period shall conduct tap water sampling for lead and copper at the frequency specified in paragraph (d)(3) of this section, collect the number of samples specified for standard monitoring under paragraph (c) of this section, and shall resume monitoring for water quality parameters within the distribution system in accordance with 40 CFR, part 141.87(d). This standard tap water sampling shall begin no later than the six-month period beginning January 1 of the calendar year following the lead or copper action level exceedance or water quality parameter excursion. Such a system may resume reduced monitoring for lead and copper at the tap and for water quality parameters within the distribution system under the following conditions:

(1) The system may resume annual monitoring for lead and copper at the tap at the reduced number of sites specified in paragraph (c) of this section after it has completed two consecutive six-month rounds of monitoring that meet both lead and copper action levels and the system has received approval from the Division that it is appropriate to resume reduced monitoring on an annual frequency. This sampling shall begin during the calendar year immediately following the end of the second consecutive six-month monitoring period.

(2) The system may resume triennial monitoring for lead and copper at the tap at the reduced number of sites after it demonstrates through subsequent rounds of monitoring that it meets the action level criteria for lead and copper and has received approval from the Division that it is appropriate to resume triennial monitoring.

(3) The system may reduce the number of water quality parameter tap water samples required and the frequency with which it collects such samples in accordance with 40 CFR, part 141.87(e)(1) and (2). Such a system may not resume triennial monitoring for water quality parameters at the tap until it demonstrates that it has re-qualified for triennial monitoring, in accordance with 40 CFR, part 141.87(e)(2).

(vii) Any water system subject to a reduced monitoring frequency under paragraph (d)(4) of this section shall notify the Division of any upcoming long-term change in treatment or addition of a new source as described in 40 CFR, part 141.90(a)(3). The Division must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system.

(e) Additional monitoring by systems. The results of any monitoring conducted in addition to the minimum requirements of this section shall be considered by the system and the Division in making any determinations (i.e., calculating the 90th percentile lead or copper level) under this subpart or 40 CFR Part 141.82.

(f) Invalidation of lead or copper tap water samples. A sample invalidated under this paragraph does not count toward determining lead or copper 90th percentile levels under 391-3-5-.25(1)(c) or toward meeting the minimum monitoring requirements of paragraph (c) of this section.

(1) The Division may invalidate a lead or copper tap water sample if at least one of the following conditions is met.

(i) The laboratory establishes that improper sample analysis caused erroneous results.

(ii) The Division determines that the sample was taken from a site that did not meet the site selection criteria of this section.

(iii) The sample container was damaged in transit.

(iv) There is substantial reason to believe that the sample was subject to tampering.

(2) The system must report the results of all samples to the Division and all supporting documentation for samples the system believes should be invalidated.

(3) To invalidate a sample under paragraph (f)(1) of this section, the decision and the rationale for the decision must be documented in writing. The Division may not invalidate a sample solely on the grounds that a follow-up sample result is higher or lower than that of the original sample.

(4) The water system must collect replacement samples for any samples invalidated under this section if, after the invalidation of one or more samples, the system has too few samples to meet the minimum requirements of paragraph (c) of this section. Any such replacement samples must be taken as soon as possible, but no later than 20 days after the date the Division invalidates the sample or by the end of the applicable monitoring period, whichever occurs later. Replacement samples taken after the end of the applicable monitoring period shall not be used to meet the monitoring requirements of a subsequent monitoring period. The replacement samples shall be taken at the same locations as the invalidated samples or, if that is not possible, at locations other than those already used for sampling during the monitoring period.

(g) Monitoring waivers for small systems. Any small system that meets the criteria of 40 CFR, section 141.86(g) may apply to the Division to reduce the frequency of monitoring for lead and copper.

(8) Monitoring requirements for water quality parameters. All large water systems and all small and medium-size systems that exceed the lead or copper action level shall monitor water quality parameters in addition to lead and copper in accordance with this section. The requirements of this section are summarized in a table at the end of 40 CFR, Part 141.87.

(a) Systems will have to monitor water quality parameters at different locations.

1. Representative taps throughout the distribution system (system can use total coliform sample sites). The system should take into account the number of persons served, the different sources of water, the different treatment methods employed by the system, and seasonal variability.

2. Samples are to be collected of the treated water from each source before entry point to the distribution system. If the system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions (i.e., when water is representative of all sources being used).

3. Number of samples.

(i) Systems shall collect two tap samples for applicable water quality parameters during each monitoring period. ~~As~~ as described in paragraphs (b thru e) of this section. The following number of sites is required:

Distribution System Tap Sampling Requirements for Water Quality Parameters.
(Other Than Lead and Copper)

System Size (Population)	No. # of <u>Distribution System</u> Sampling Sites (Base Monitoring)
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> 100,000	25
10,001 to 100,000	10
3,301 to 10,000	3
501 to 3,300	2
101 to 500	1
≤ 100	1

(ii) Except as provided in paragraph (c) of this section, systems shall collect two samples for each water quality parameter at each entry point to the distribution system during each monitoring period as described in paragraph (b) of this section. During each monitoring period specified in paragraphs (c-e) of this section, systems shall collect one sample for each applicable water quality parameter at each entry point to the distribution system.

(b) Initial Sampling - All large water systems shall measure the water quality parameters listed below at distribution system taps and at each entry point to the distribution system during each six-month monitoring period (specified in Section 391-3-5-.25(7)(d)(1).

1. pH;
2. alkalinity;
3. calcium;
4. conductivity;
5. orthophosphate, when an inhibitor containing phosphate is used;
6. silica, when an inhibitor containing silica is used;
7. Water temperature.

(c) Monitoring after installation of corrosion control. All large systems which install optimal corrosion control treatment according to Section 391-3-5-.25(7)(d)(2)(i) shall measure water quality parameters at the locations and frequencies listed below during each six month monitoring period. All small or medium size systems which install optimal corrosion treatment shall conduct such monitoring during each six-month monitoring period specified in Section 391-3-5-.25(7)(d)(2)(ii) only when the system exceeds the lead and copper action level.

1. At the required number of distribution system sites/taps, two samples every six months for:

- (i) pH;
- (ii) alkalinity;
- (iii) orthophosphate, when an inhibitor containing phosphate is used;
- (iv) silica, when an inhibitor containing silica is used;

(v) calcium;

2. At each entry point to the distribution system, one sample every two weeks for:

(i) pH;

(ii) when alkalinity is adjusted as part of optimal corrosion control, a reading of the dosage rate of the chemical used to adjust alkalinity, and the alkalinity concentration.

(iii) when a corrosion inhibitor is used as part of optimal corrosion control, a reading of the dosage rate of the inhibitor used, and the concentration of orthophosphate or silica.

(d) Monitoring after the Division specifies water quality parameter values for optimal corrosion control will be as follows. The Division will specify the values for applicable water quality control parameters reflecting optimal corrosion control treatment in accordance with 40 CFR Part, 141.82(f). All large systems shall measure the applicable water quality parameters in accordance with paragraph (c) of this section and determine compliance with the requirements of 391-3-5-.25(7)(d)(3) every six months with the first six-month period to begin on January 1 or July 1, whichever comes first, after the Division specifies optimal values under 40 CFR, part 141.82(f). Any small or medium-size system shall conduct such monitoring during each six-month period specified in this paragraph in which the system exceeds the lead and/or copper action level(s). For any such small and medium-size system that is subject to a reduced monitoring frequency pursuant to 391-3-5-.25(7)(d)(4) at the time of the action level exceedance, the start end of the applicable six-month period under this paragraph shall coincide with the start end of the applicable monitoring period under 391-3-5-.25(7)(d)(4). Compliance with the division-designated optimal water quality parameter values shall be determined as specified under 391-3-5-.25(7)(d)(3).

(e) Reduced monitoring for water quality parameters.

1. Any water system that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment during each of two consecutive six-month monitoring periods under paragraph (d) of this section shall continue monitoring at the entry point(s) to the distribution system as specified in paragraph (c)(2) of this section. Such system may collect two tap samples for applicable water quality parameters from the following reduced number of sites during each six-month monitoring period.

System Size (Population)	No. of Sampling Sites (Reduced Monitoring)
> 100,000	10
10,001 to 100,000	7
3,301 to 10,000	3
501 to 3,000	2
101 to 500	1
≤ 100	1

2. (i) Any water system that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the Division under Section 391-3-5-.25(3) during three consecutive years of monitoring may reduce the frequency with which it collects the number of tap samples for applicable water quality parameters specified in ~~this paragraph (e)(1)~~ of this section from every six months to annually. This sampling begins during the calendar year immediately following the end of the monitoring period in which the third consecutive year of six-month monitoring occurs. Any water system that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the Division during three consecutive years of annual monitoring under this paragraph may reduce the frequency with which it collects the number of tap samples for applicable water quality parameters from annually to every three years. This sampling begins no later than the third calendar year following the end of the monitoring period in which the third consecutive year of monitoring occurs.

~~(ii)(4)~~ (ii) A water system may reduce the frequency with which it collects tap samples for applicable water quality parameters specified in paragraph (e)(1) of this section to every three years if it demonstrates during two consecutive monitoring periods that its tap water lead level at the 90th percentile is less than or equal to the PQL for lead specified in 391-3-5-.25(10), that its tap water copper level is less than or equal to 0.65 mg/L for copper in 391-3-5-.25(c)(2), and that it also has maintained the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the division under 391-3-5-.25(2)(d). Monitoring conducted every three years must be done no later than every third calendar year.

3. A water system that conducts sampling annually shall collect these samples evenly throughout the year so as to reflect seasonal variability.

4. Any water system subject to reduced monitoring frequency that fails to operate at or above the minimum value within the range of values for the water quality parameters specified by the Division under Section 391-3-5-.25(3) shall resume distribution system tap water sampling in accordance with the number and frequency requirements in paragraph (d) of this section.

(f) Additional monitoring by systems must be approved by the Division.

(9) Monitoring requirements for lead and copper in source water.

(a) Sample location, collection methods, and number of samples.

1. A water system that fails to meet the lead or copper action level on the basis of routine tap samples collected in accordance with Section 391-3-5-.25(7) shall collect lead and copper source water samples in accordance with the requirements regarding sample location, number of samples, and collection methods specified in 40 CFR, Part 141.88(a)(1)(i-iv) ~~(1)(a)(i-iv)~~ and (A - B).

2. Where the results of sampling indicate an exceedance of maximum permissible source water levels established under Section 391- 3-5-.25(4)(b)(4), the Division may require that one additional sample be collected as soon as possible after the initial sample was taken (but not to exceed two weeks) at the same sampling point. If a Division- required confirmation sample is taken for lead or copper, then the results of the initial and

confirmation sample shall be averaged in determining compliance with the Division-specified maximum permissible levels. Any sample value below the detection limit shall be considered to be zero. Any value above the detection limit but below the PQL shall either be considered as the measured value or be considered one-half the PQL.

(b) Monitoring frequency after system exceeds tap water action level. Any system ~~which~~ that exceeds the lead or copper action level during routine at the tap water monitoring shall collect one source water sample from each entry point to the distribution system ~~within no later than~~ no later than six months after the end of the monitoring period during which the action level was exceeded ~~exceedance~~. For monitoring periods that are annual or less frequent, the end of the monitoring period is September 30 of the calendar year in which sampling occurs, or if the Division has established an alternate monitoring period, the last day of that period.

(c) Monitoring frequency after installation of source water treatment. Any system which installs source water treatment pursuant to Section 391-3-5-.25(4)(a)(2) shall collect an additional source water sample from each entry point to the distribution system during two consecutive six-month monitoring periods by the deadline specified in Section 391-3-5-.25(4)(a)(4).

(d) Monitoring frequency after Division specifies maximum permissible source water levels or determines that source water treatment is not needed.

1. A system shall monitor at the frequency specified below in cases where the Division specifies maximum permissible source water levels under Section 391-3-5-.25(4)(b)(4) or determines that the system is not required to install source water treatment under Section 391-3-5-.25(4)(b)(2).

(i) A water system using only groundwater shall collect samples once during the three-year compliance period (as that term is defined in Section 391-3-5-.02) in effect when the applicable Division determination under paragraph (d)(1) of this section is made. Such systems shall collect samples once during each subsequent compliance period. Triennial samples shall be collected every third year.

(ii) A water system using surface water (or a combination of surface and groundwater) shall collect samples once during each year, the first annual monitoring period to begin ~~on the date on~~ during the year in which the applicable Division determination is made under paragraph (d)(1) of this section.

2. A system is not required to conduct source water sampling for lead and/or copper if the system meets the action level for the specific contaminant in tap water samples during the entire source water sampling period applicable to the system under paragraph (d)(1)(i) or

(ii) of this section.

(e) Reduced monitoring frequency.

1. A water system using only ground water may reduce the monitoring frequency for lead and copper in source water to once during each nine-year compliance cycle, as is defined

in 40 CFR, part 141.2, provided the samples are collected no later than every ninth year and if the system meets one of the following:

(i) The system demonstrates that finished drinking water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations specified by the Division under Rule 391-3-5-.25 (1)(c) during at least three consecutive compliance periods under paragraph (d)(1) of this section; or

(ii) The Division has determined that source water treatment is not needed and the system demonstrates that, at least three consecutive compliance periods in which sampling was conducted under paragraph (d)(1) of this section, the concentration of lead in source water was less than or equal to 0.005 mg/L and the concentration of copper in source water was less than or equal to 0.65 mg/L.

2. A water system using surface water or a combination of surface and groundwater may reduce the monitoring frequency in paragraph (d)(1) of this section to once during each nine-year compliance cycle, as is defined in 40 CFR, part 141.2, provided the samples are collected no later than every ninth year and if the system meets one of the following:

(i) The system demonstrates that finished drinking water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations specified by the Division under Rule 391-3-5-.25(1)(c) during at least three consecutive years; or

(ii) The Division has determined that source water treatment is not needed and the system demonstrates that, for at least three consecutive years, the concentration of lead in source water was less than or equal to 0.005 mg/L and the concentration of copper in source water was less than or equal to 0.65 mg/L.

3. A water system that uses a new source of water is not eligible for reduced monitoring for lead and/or copper until concentrations in samples collected from the new source during three consecutive monitoring periods are below the maximum permissible lead and copper concentrations specified in Section 391-3-5-.25(4)(a)(5).

(10) Analytical Methods. Analyses for lead, copper, pH, conductivity, calcium, alkalinity, orthophosphate, silica, and temperature shall be conducted in accordance with 40 CFR, Part 141.89.

(11) Reporting Requirements. All water systems shall report all information to the Division in accordance with 40 CFR, Part 141.90.

(12) Record Keeping Requirements. All systems subject to the requirements of this section shall retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, Division determinations, and any other information required in accordance with 40 CFR, Part 141.91.

(13) Treatment Techniques.

(a) These regulations establish treatment techniques in lieu of maximum contaminant levels for acrylamide and epichlorohydrin.

(b) Each public water system must certify annually in writing to the Division (using third party or manufacturer's certification) that when acrylamide and epichlorohydrin are used in drinking water systems, the combination (or product) of dose and monomer level does not exceed the levels specified as follows:

1. Acrylamide = 0.05% dosed at 1 ppm (or equivalent)

2. Epichlorohydrin = 0.01% dosed at 20 ppm (or equivalent) Certifications can rely on manufacturers or third parties, as approved by the Division.

Authority O.C.G.A. Sec. 12-5-170 et seq. History. Original Rule entitled "Reporting Requirements" adopted F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. Amended: F. July 15, 1983; eff. Aug. 4, 1983. Repealed: New Rule entitled "Volatile Synthetic Organic Chemical Sampling and Analytical Requirements" adopted. F. May 12, 1989; eff. June 1, 1989. Repealed: New Rule of same title adopted. F. Dec. 4, 1990; eff. Dec. 24, 1990. Repealed: New Rule, entitled "Treatment Techniques, Lead and Copper Requirements" adopted. F. June 25, 1992; eff. July 15, 1992. Amended: F. Mar. 10, 1994; eff. Mar. 30, 1994. Amended: F. Sept. 26, 1997; eff. Oct. 16, 1997. Amended: F. June 8, 2001; eff. June 28, 2001. Amended: F. Dec. 21, 2004; eff. Jan. 10, 2005.

Rule 391-3-5-.29 (Certified Laboratories) thereof, is hereby amended to read as follows:

(1) For the purpose of determining compliance with Rules 391-3-5-.18, .19, .20, .21, .22, .23, .24, .25, .26, ~~and .27~~ and .54, samples may be considered only if they have been analyzed by a laboratory approved by the Division, in accordance with 40 CFR, 141.28, except that measurements used solely for operational control, including but not limited to turbidity, free chlorine residual, fluoride residual, temperature, pH, conductivity, calcium, alkalinity, orthophosphate, and silica may be performed by any person acceptable to the Division.

(2) All drinking water analysis laboratories certified by the Division must notify the Division of personnel changes within thirty days from the time of the change.

(3) Nothing in this Chapter shall be construed to preclude the Division or any duly designated representative of the Division from taking samples or from using the results from such samples to determine compliance by a supplier of water with the applicable requirements of this Chapter.

Authority Ga. L. 1977, p. 351, et seq., O.C.G.A. Sec. 12-5-170 et seq., as amended. History. Original Rule entitled "Maximum Contaminant Levels for Beta Particle and Photon Radioactivity from Man-Made Radionuclides in Community Water Systems" was filed on July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47. Repealed: New Rule entitled "Laboratory Approval" adopted. F. May 12, 1989; eff. Jun. 1, 1989. Repealed: New Rule, same title, adopted. F. Jun. 25, 1992; eff. Jul. 15, 1992. Amended: F. Mar. 10, 1994; eff. Mar. 30, 1994. Amended: Rule retitled "Certified Laboratories" adopted F. Sept. 26, 1997; eff. Oct. 16, 1997.

Rule 391-3-5-.32 (Public Notification) thereof, is hereby amended to read as follows:

(1) Public notification of drinking water violations: 40 CFR, Subpart Q § 141.201 through 141.210, including Appendices A, B and C to subpart Q of Part 141, is hereby incorporated by reference. Any amendments to any part of the appendices in 40 CFR,

Subpart Q are hereby incorporated by reference. If a community or non-community water system fails to comply with an applicable primary maximum contaminant level established in Section 391-3-5-.18; fails to comply when applicable with the secondary maximum contaminant level for fluoride established in Section 391-3-5-.19; fails to comply with an applicable testing procedure established in Sections 391-3-5-.20, .21, .22, .23, .24, .25, or .27; is granted a variance or an exemption from an applicable maximum contaminant level; fails to comply with the requirements of any schedule prescribed pursuant to a variance or exemption; or fails to comply with any treatment technique requirement specified by the Director; or fails to perform any monitoring or reporting required pursuant to Sections 391-3-5-.20, .21, .22, .23, .24, .25, .26, .27 and .30; the supplier of water shall notify persons (including the mandatory health effects language) served by the system as required in 40 CFR, Parts 141, Subpart Q, 142.16(a).

(2) The owner or operator of each community water system and each non-transient, non-community water system shall issue notice, in accordance with 40 CFR, Part 141.34, to persons served by the system that may be affected by lead contamination of their drinking water. The owner or operator shall provide notice under this Section even if there is no violation of the national primary drinking water regulation for lead.

(3) The owner or operator of a community water system or nontransient, non-community water system who is required to monitor for unregulated organic chemicals in accordance with Section 391-3-5-.26 shall notify persons served by the system of the availability of the results of sampling in accordance with 40 CFR, Part 141.35.

(4) For violations of the MCL of contaminants and MRDLs of disinfectants that may pose an acute risk to human health, a copy of the notice shall be furnished to radio and television stations serving the area served by the public water system as soon as possible but in no case later than 72 hours after the violation.

(a) For violations of the MCL for total coliform, when fecal coliform or E. coli is detected or a failure to test for fecal coliform or E.coli, including E. coli in source water samples based on §141.202 (a) Table 1 (8) and MRDLs of disinfectants that may pose acute risk to human health, a copy of the notice shall be furnished to radio and television stations serving the area served by the public water system as soon as possible but in no case later than 24 hours after the violation.

(b) For violations of the MCL for total coliform, MRDL's and treatment technique requirements taking in account potential health effects a copy of the notice must be provided by a daily or weekly newspaper as soon as possible but in no case later than 30 days of the violation as stated in §141.203 (a)(4). A copy must also be issued by direct mail, posting, or hand delivery as soon as possible but in no case later than 30 days of the violation.

(c) Tier 1 public notice in lieu of Tier 2 or Tier 3 is required for violations or situations listed in Table 1 of 40 CFR 141.202(a)(Items (5), (6), and (9) are hereby incorporated by reference.

1. Violation of the turbidity MCL under § 141.13(b), where the primacy agency determines after consultation that a Tier 1 notice is required or where consultation does not take place within 24 hours after the system learns of the violation;

2. Violation of the Surface Water Treatment Rule (SWTR), Interim Enhanced Surface Water Treatment Rule (IESWTR) or Long Term 1 Enhanced Surface Water Treatment Rule (LT1SWTR) treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit.

3. Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the primacy agency either in its regulations or on a case-by-case basis.

(5) The owner or operator of a community water system must give a copy of the most recent public notice for any outstanding violation of any maximum contaminant level, or any maximum residual disinfectant level, or any treatment technique requirement, or any variance or exemption schedule to all new billing units or new hookups prior to or at the time service begins.

(6) Special public notice for repeated failure to conduct monitoring of the source water for *Cryptosporidium* and for failure to determine bin classification or mean *Cryptosporidium* level: 40 CFR, Subpart Q § 141.211, in its entirety, including Appendix A, is hereby incorporated by reference. The specified mandatory language must be included in the special notice.

(7) Any reference to public notification requirements in 40 CFR 141.32 is not applicable.

Authority O.C.G.A. Sec. 12-5-170 et seq. History. Original Rule entitled “Requirements for a Variance” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. Repealed: New Rule entitled “Public Notification” adopted. F. May 12, 1989; eff. June 1, 1989. Amended: F. Dec. 4, 1990; eff. Dec. 24, 1990. Repealed: New Rule of same title adopted. F. June 25, 1992; eff. July 15, 1992. Amended: F. Sept. 29, 2000; eff. Oct. 19, 2000. Amended: F. June 8, 2001; eff. June 28, 2001. Amended: F. Dec. 10, 2002; eff. Dec. 30, 2002.

Rule 391-3-5-.52 thereof, relating to Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) is hereby added to read as follows:

(1) Purpose. The purpose of the 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 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.

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

(ii) 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.

(iii) 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:

(i) 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 §§ 141.701 through 141.706, to determine what level, if any, of additional *Cryptosporidium* treatment they must provide.

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

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

(iv) 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 § 141.714.

(v) Systems required to provide additional treatment for *Cryptosporidium* must implement microbial toolbox options that are designed and operated as described in §§ 141.715 through 141.720.

(vi) Systems must comply with the applicable recordkeeping and reporting requirements described in §§ 141.721 through 141.722.

(vii) Systems must address significant deficiencies identified in sanitary surveys performed by EPA or Division as described in § 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 § 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 § 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 § 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 § 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 § 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 § 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 § 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 § 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 § 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 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 § 141.701(b), filtered systems must recalculate their *Cryptosporidium* bin concentration using the *Cryptosporidium* results reported under § 141.701(b) and following the procedures in paragraphs (b)(1) through (4) of section § 141.710. Systems must then redetermine their bin classification using this bin concentration and the table in paragraph (c) of section § 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 section § 141.711 based on their bin classification as determined under § 141.710 and according to the schedule in § 141.713.

(a) Filtered systems must use one or more of the treatment and management options listed in § 141.715, termed the microbial toolbox, to comply with the additional *Cryptosporidium* treatment required in paragraph (a) of section § 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 section § 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 §§ 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 section § 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 § 141.710(c), filtered systems must provide the level of treatment for *Cryptosporidium* required under § 141.711 according to the schedule in paragraph (c) of this section.

(b) Following initial determination of the mean *Cryptosporidium* level under § 141.712(a)(1), unfiltered systems must provide the level of treatment for *Cryptosporidium* required under § 141.712 according to the schedule in paragraph (c) of this section.

(c) *Cryptosporidium* treatment compliance dates.

<u>CRYPTOSPORIDIUM TREATMENT COMPLIANCE DATES TABLE</u>	
<u>Systems that serve ...</u>	<u>Must comply with <i>Cryptosporidium</i> treatment requirements no later than .. (1)</u>
<u>At least 100,000 people.</u>	<u>April 1, 2012</u>
<u>From 50,000 to 99,999 people.</u>	<u>October 1, 2012</u>
<u>From 10,000 to 49,999 people.</u>	<u>October 1, 2013</u>
<u>Fewer than 10,000 people.</u>	<u>October 1, 2014</u>
<u>(1) States may allow up to an additional two years for complying with the treatment requirement for systems making capital improvements.</u>	

(d) If the bin classification for a filtered system changes following the second round of source water monitoring, as determined under § 141.710(d), the system must provide the level of treatment for *Cryptosporidium* required under § 141.711 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.

(18) 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) Reporting requirements. 40 CFR, Subpart W § 141.721 (a) through (f) is hereby incorporated by reference.

(20) Recordkeeping requirements. 40 CFR, Subpart W § 141.722 (a) through (c) is hereby incorporated by reference.

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

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

Rule 391-3-5-.53 thereof, relating to Stage 2 Disinfection Byproducts Rule (Stage 2 DBPR) is hereby added to read as follows:

Purpose. The Stage 2 DBPR (40 CFR, Subpart V § 141) builds on existing regulations by requiring water systems to meet disinfection byproduct (DBP) maximum contaminant levels (MCLs) at each monitoring site in the distribution system to better protect public health. The Stage 2 DBPR includes a provision requiring all community water systems (CWS) and only nontransient noncommunity water systems (NTNCWS) serving more than 10,000 people to conduct an initial distribution system evaluation (IDSE) (40 CFR, Subpart U § 141). NTNCWS serving less than 10,000 are exempted from IDSE requirements, but will need to comply with the Stage 2 DBPR compliance monitoring requirements. The goal of the IDSE is to characterize the distribution system and identify

monitoring sites where customers may be exposed to high levels of total trihalomethanes (TTHM) and haloacetic acids (HAA5).

(1) Initial Distribution System Evaluations – Subpart U

(a) General requirements. The requirements of subpart U of this part 141 constitute national primary drinking water regulations. The regulations in this subpart establish monitoring and other requirements for identifying subpart V compliance monitoring locations for determining compliance with maximum contaminant levels for total trihalomethanes (TTHM) and haloacetic acids (five)(HAA5). You must use an Initial Distribution System Evaluation (IDSE) to determine locations with representative high TTHM and HAA5 concentrations throughout your distribution system. IDSEs are used in conjunction with, but separate from, subpart L compliance monitoring, to identify and select subpart V compliance monitoring locations.

(b) Applicability. Public water systems are subject to these requirements if the water system is a community water system that uses a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light; or if the water system is a nontransient noncommunity water system that serves at least 10,000 people and uses a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light.

(c) Schedule. 40 CFR Subpart U § 141.600 (c), in its entirety, is hereby incorporated by reference. Systems required to comply with Initial Distribution System Evaluations – Subpart U, must comply with the schedule specified in the table § 141.600 (c) (1). A wholesale system or a consecutive system must comply with the specified schedule at the same time as the system with the earliest compliance date in the combined distribution system.

(d) 40 CFR Subpart U § 141.600 (d) through (f), in its entirety, is hereby incorporated by reference.

(e) Standard Monitoring. 40 CFR Subpart U § 141.601 is hereby incorporated by reference.

(i) Standard monitoring plan. 40 CFR Subpart U § 141.601 (a) through (c), in its entirety, is hereby incorporated by reference.

(ii) System specific studies. 40 CFR Subpart U § 141.602 (a) through (b), in its entirety, is hereby incorporated by reference.

(iii) 40/30 Certification. 40 CFR Subpart U § 141.603 (a) through (b), in its entirety, is hereby incorporated by reference.

(iv) Very small system waivers. 40 CFR Subpart U § 141.604 (a) through (b), in its entirety, is hereby incorporated by reference.

(f) Subpart V compliance monitoring location recommendations. 40 CFR Subpart U § 141.605 (a) through (e), in its entirety, is hereby incorporated by reference. Water system’s IDSE report must include the recommendations and justification for where and

during what month(s) TTHM and HAA5 monitoring for subpart V of part 141 should be conducted. Water system must base its recommendations on the criteria in paragraphs (b) through (e) of this section.

(2) Stage 2 Disinfection Byproducts Requirements – Subpart V

(a) General requirements. The requirements of subpart V of this part constitute national primary drinking water regulations. The regulations in this subpart establish monitoring and other requirements for achieving compliance with maximum contaminant levels based on locational running annual averages (LRAA) for total trihalomethanes (TTHM) and haloacetic acids (five)(HAA5), and for achieving compliance with maximum residual disinfectant residuals for chlorine and chloramine for certain consecutive systems.

(b) Applicability. Public water systems are subject to these requirements if the system is a community water system or a nontransient noncommunity water system that uses a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light.

(c) Schedule. 40 CFR Subpart V § 141.620 (c), in its entirety, is hereby incorporated by reference. Systems required to comply with Stage 2 Disinfection Byproducts Requirements – Subpart V, must comply with the schedule specified in the table § 141.620 (c). A wholesale system or a consecutive system must comply with the specified schedule at the same time as the system with the earliest compliance date in the combined distribution system.

(i) Systems serving > 100,000 people: April 1, 2012

(ii) Systems serving 50,000-99,999 people: October 1, 2012

(iii) Systems serving 10,000-49,999 people: October 1, 2013

(iv) Systems serving < 10,000 people: October 1, 2013 if no *Cryptosporidium* monitoring is required under §141.701(a)(4) OR October 1, 2014 if *Cryptosporidium* monitoring is required under §141.701(a)(4) or (a)(6).

(d) Monitoring frequency must be in accordance with 40 CFR Subpart V § 141.621 (a)(2).

(i) If a water system is required to conduct quarterly monitoring, it must begin monitoring in the first full calendar quarter that includes the compliance date in the table in paragraph § 141.620 (c).

(ii) If a water system is required to conduct monitoring at a frequency that is less than quarterly, it must begin monitoring in the calendar month recommended in the IDSE report prepared under § 141.601 or § 141.602 or the calendar month identified in the subpart V monitoring plan developed under § 141.622 no later than 12 months after the compliance date in paragraph § 141.620 (c).

(iii) If a water system is required to conduct quarterly monitoring, it must make compliance calculations at the end of the fourth calendar quarter that follows the compliance date and at the end of each subsequent quarter (or earlier if the LRAA

calculated based on fewer than four quarters of data would cause the MCL to be exceeded regardless of the monitoring results of subsequent quarters). If a water system is required to conduct monitoring at a frequency that is less than quarterly, it must make compliance calculations beginning with the first compliance sample taken after the compliance date.

(iv) For the purpose of the schedule in paragraph § 141.620 (c), the Division may determine that the combined distribution system does not include certain consecutive systems based on factors such as receiving water from a wholesale system only on an emergency basis or receiving only a small percentage and small volume of water from a wholesale system. The Division may also determine that the combined distribution system does not include certain wholesale systems based on factors such as delivering water to a consecutive system only on an emergency basis or delivering only a small percentage and small volume of water to a consecutive system.

(e) Monitoring and compliance.

(i) Systems required to monitor quarterly. To comply with subpart V MCLs in § 141.64(b)(2), water system must calculate LRAAs for TTHM and HAA5 using monitoring results collected under this subpart and determine that each LRAA does not exceed the MCL. If water system fails to complete four consecutive quarters of monitoring, you must calculate compliance with the MCL based on the average of the available data from the most recent four quarters. If you take more than one sample per quarter at a monitoring location, you must average all samples taken in the quarter at that location to determine a quarterly average to be used in the LRAA calculation.

(ii) Systems required to monitor yearly or less frequently. To determine compliance with subpart V MCLs in § 141.64(b)(2), water system must determine that each sample taken is less than the MCL. If any sample exceeds the MCL, it must comply with the requirements of § 141.625. If no sample exceeds the MCL, the sample result for each monitoring location is considered the LRAA for that monitoring location.

(f) Violations. Water system is in violation of the monitoring requirements for each quarter that a monitoring result would be used in calculating an LRAA if it fails to monitor.

(g) Routine monitoring. If a water system submitted an IDSE report, it must begin monitoring at the locations and months it has recommended in its IDSE report submitted under § 141.605 following the schedule in § 141.620(c), unless the Division requires other locations or additional locations after its review. If a water system submitted a 40/30 certification under § 141.603 or it qualified for a very small system waiver under § 141.604 or it is a nontransient noncommunity water system serving <10,000, it must monitor at the location(s) and dates identified in its monitoring plan in § 141.132(f), updated as required by § 141.622.

(h) Water system must monitor at no fewer than the number of locations identified in this paragraph:

<u>Source Water Type</u>	<u>Population Size Category</u>	<u>Monitoring Frequency (1)</u>	<u>Distribution system monitoring location total per monitoring period (2)</u>

<u>Subpart H</u>	<u>< 500</u>	<u>per year</u>	<u>2</u>
	<u>500-3,300</u>	<u>per quarter</u>	<u>2</u>
	<u>3,301-9,999</u>	<u>per quarter</u>	<u>2</u>
	<u>10,000-49,999</u>	<u>per quarter</u>	<u>4</u>
	<u>50,000-249,999</u>	<u>per quarter</u>	<u>8</u>
	<u>250,000-999,999</u>	<u>per quarter</u>	<u>12</u>
	<u>1,00,000-4,999,999</u>	<u>per quarter</u>	<u>16</u>
	<u>> 5,000, 000</u>	<u>per quarter</u>	<u>20</u>
<u>Ground Water</u>			
	<u>< 500</u>	<u>per year</u>	<u>2</u>
	<u>500-9,999</u>	<u>per year</u>	<u>2</u>
	<u>10,000-99,999</u>	<u>per quarter</u>	<u>4</u>
	<u>100,000-499,999</u>	<u>per quarter</u>	<u>6</u>
	<u>> 500,000</u>	<u>per quarter</u>	<u>8</u>

NOTES:

(1) All systems must monitor during month of highest DBP concentrations.

(2) Systems on quarterly monitoring must take dual sample sets every 90 days at each monitoring location, except for subpart H systems serving 500–3,300. Systems on annual monitoring and subpart H systems serving 500–3,300 are required to take individual TTHM and HAA5 samples (instead of a dual sample set) at the locations with the highest TTHM and HAA5 concentrations, respectively. Only one location with a dual sample set per monitoring period is needed if highest TTHM and HAA5 concentrations occur at the same location (and month, if monitored annually).

(i) If a water system is an undisinfected system that begins using a disinfectant other than UV light after the dates in subpart U of this part for complying with the Initial Distribution System Evaluation requirements, it must consult with the Division to identify compliance monitoring locations for this subpart. The water system must then develop a monitoring plan under § 141.622 that includes those monitoring locations.

(j) Analytical methods. The water system must use an approved method listed in § 141.131, as stated in Section 391-3-5-.24(4)(g) of the Rules, for TTHM and HAA5 analyses. Analyses must be conducted by laboratories that have received certification by EPA or the Division.

(3) Monitoring plans (for Stage 2 Disinfection Byproducts Requirements–Subpart V):

(a) Water system must develop and implement a monitoring plan to be kept on file for Division and public review. The monitoring plan must contain the following elements and be complete no later than the date it conducts its initial monitoring under this subpart.

(i) Monitoring locations;

(ii) Monitoring dates;

(iii) Compliance calculation procedures; and

(iv) Monitoring plans for any other systems in the combined distribution system if the Division has reduced monitoring requirements under its authority.

(b) If a water system was not required to submit an IDSE report under either §141.601 or §141.602, and it does not have sufficient subpart L (Stage 1 DBPR) monitoring locations to identify the required number of subpart V (Stage 2 DBPR) compliance monitoring locations indicated in §141.605(b), it must identify additional locations by alternating selection of locations representing high TTHM levels and high HAA5 levels until the required number of compliance monitoring locations have been identified. It must also provide the rationale for identifying the locations as having high levels of TTHM or HAA5. If it has more subpart L monitoring locations than required for subpart V compliance monitoring in §141.605(b), it must identify which locations it will use for subpart V compliance monitoring by alternating selection of locations representing high TTHM levels and high HAA5 levels until the required number of subpart V compliance monitoring locations have been identified.

(c) A subpart H water system serving > 3,300 people must submit a copy of its monitoring plan to the Division prior to the date it conducts its initial monitoring under this subpart, unless its IDSE report submitted under subpart U of this part contains all the information required by this section.

(d) A water system may revise its monitoring plan to reflect changes in treatment, distribution system operations and layout (including new service areas), or other factors that may affect TTHM or HAA5 formation, or for Division-approved reasons, after consultation with the Division regarding the need for changes and the appropriateness of changes. If a water system changes monitoring locations, it must replace existing compliance monitoring locations with the lowest LRAA with new locations that reflect the current distribution system locations with expected high TTHM or HAA5 levels. The Division may also require modifications in water system's monitoring plan. A subpart H system serving > 3,300 people must submit a copy of its modified monitoring plan to the Division prior to the date it is required to comply with the revised monitoring plan.

(4) Reduced Monitoring.

(a) The water system may reduce monitoring to the level specified in table § 141.623(a) any time the LRAA is <0.040 mg/L for TTHM and <0.030 mg/L for HAA5 at all monitoring locations. It may only use data collected under the provisions of this subpart or subpart L of this part to qualify for reduced monitoring. In addition, the source water annual average TOC level, before any treatment, must be <4.0 mg/L at each treatment plant treating surface water or ground water under the direct influence of surface water, based on monitoring conducted under either §141.132(b)(1)(iii) or §141.132(d).

(b) The water may remain on reduced monitoring as long as the TTHM LRAA ≤0.040 mg/L and the HAA5 LRAA <0.030 mg/L at each monitoring location (for systems with quarterly reduced monitoring) or each TTHM sample ≤0.060 mg/L and each HAA5 sample ≤0.045 mg/L (for systems with annual or less frequent monitoring). In addition, the source water annual average TOC level, before any treatment, must be ≤4.0 mg/L at each treatment plant treating surface water or ground water under the direct influence of surface water, based on monitoring conducted under either § 141.132(b)(1)(iii) or §141.132(d).

(c) If the LRAA based on quarterly monitoring at any monitoring location exceeds either 0.040 mg/L for TTHM or 0.030 mg/L for HAA5 or if the annual

(or less frequent) sample at any location exceeds either 0.060 mg/L for TTHM or 0.045 mg/L for HAA5, or if the source water annual average TOC level, before any treatment, >4.0 mg/L at any treatment plant treating surface water or ground water under the direct influence of surface water, the water system must resume routine monitoring under § 141.621 or begin increased monitoring if § 141.625 applies.

(d) The Division may return the water system to routine monitoring at its discretion.

(5) Additional requirements for consecutive systems. A consecutive system that does not add a disinfectant but delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light must comply with analytical and monitoring requirements for chlorine and chloramines in § 141.131 (c) and § 141.132(c)(1) and the compliance requirements in § 141.133(c)(1) beginning April 1, 2009, unless required earlier by the Division, and report monitoring results under § 141.134(c).

(6) Conditions requiring increased monitoring.

(a) A water system that is required to monitor at a particular location annually or less frequently than annually under § 141.621 or § 141.623 must increase monitoring to dual sample sets once per quarter (taken every 90 days) at all locations if a TTHM sample is >0.080 mg/L or a HAA5 sample is >0.060 mg/L at any location.

(b) A water system is in violation of the MCL when the LRAA exceeds the subpart V MCLs in § 141.64(b)(2), calculated based on four consecutive quarters of monitoring (or the LRAA calculated based on fewer than four quarters of data if the MCL would be exceeded regardless of the monitoring results of subsequent quarters). The water system is in violation of the monitoring requirements for each quarter that a monitoring result would be used in calculating an LRAA if it fails to monitor.

(c) A water system may return to routine monitoring once it has conducted increased monitoring for at least four consecutive quarters and the LRAA for every monitoring location is ≤0.060 mg/L for TTHM and ≤0.045 mg/L for HAA5.

(7) Operational Evaluation Levels.

(a) The water system has exceeded the operational evaluation level at any monitoring location where the sum of the two previous quarters' TTHM results plus twice the current quarter's TTHM result, divided by 4 to determine an average, exceeds 0.080 mg/L, or where the sum of the two previous quarters' HAA5 results plus twice the current quarter's HAA5 result, divided by 4 to determine an average, exceeds 0.060 mg/L.

(1) If a water system exceeds the operational evaluation level, it must conduct an operational evaluation and submit a written report of the evaluation to the Division no later than 90 days after being notified of the analytical result that causes it to exceed the operational evaluation level. The written report must be made available to the public upon request.

(2) The operational evaluation must include an examination of system treatment and distribution operational practices, including storage tank operations, excess storage capacity, distribution system flushing, changes in sources or source water quality, and

treatment changes or problems that may contribute to TTHM and HAA5 formation and what steps could be considered to minimize future exceedences.

(i) The water system may request and the Division may allow you to limit the scope of its evaluation if it is able to identify the cause of the operational evaluation level exceedance.

(ii) The water system's request to limit the scope of the evaluation does not extend the schedule in paragraph (b)(1) of this section for submitting the written report. The Division must approve this limited scope of evaluation in writing and the water system must keep that approval with the completed report.

(8) Requirements for remaining on reduced TTHM and HAA5 monitoring based on subpart L results. 40 CFR Subpart V § 141.627 is hereby incorporated by reference.

(9) Requirements for remaining on increased TTHM and HAA5 monitoring based on subpart L results. 40 CFR Subpart V § 141.628 is hereby incorporated by reference.

(10) Reporting and recordkeeping requirements. 40 CFR Subpart V § 141.629 is hereby incorporated by reference.

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

Rule 391-3-5-.54 thereof, relating to the Ground Water Rule is hereby added to read as follows:

The United States Environmental Protection Agency established the Ground Water Rule, which the GA EPD 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, 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 Code Section 391-3-5-.40 (3) through (7).

5. A water source, Source Water Assessment consists of the information outlined in Code Sections 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 Code Section 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 beginning December 1, 2009.

2) Sanitary Surveys for ground water systems, 40 CFR, 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 requirements.

3) Ground Water Source Microbial Monitoring and Analytical Methods, 40 CFR, Subpart S §141.402 is hereby incorporated by reference.

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

1. A ground water system must collect at least one 100 mL ground water 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.

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.

3. The Division does have the option to invalidate or waive triggered source water monitoring as stated in § 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.

4. 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 ground water 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.

(b) Assessment Source Water Monitoring maybe required in accordance with §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.

1. Collect a total of 12 ground water source samples representing each month the system provides ground water to the public.

2. Collect samples from each well unless the system obtains written approval from the Division to conduct monitoring at one or more wells within the system that are

representative of multiple wells used by the system and that draw water from the same hydrogeological setting.

3. Collect ground water source samples at a location prior to any treatment of the ground water source unless the state approves a sampling location after treatment.

4. Collect ground water 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.

(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.

(d) Analytical Methods: § 141.402(c) see § 141-Regulating Contaminants.

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

(a) The treatment technique requirements of this section 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 § 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 § 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 section 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 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 § 141.402(a)(3) was found to be fecal positive, or direction from the Division that a fecal positive collected under § 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 § 141.402(a)(3) was found to be fecal positive, or direction from the Division that a fecal positive collected under § 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 (a) and (b) of this section.

(a) The Division must approve any modifications to the corrective action plan and schedule.

(b) 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 paragraph (a)(1) or (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 § 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 § 141.402(d) must inform the public served by the water system under § 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 (a)(5) of this section.

(ii) In addition to the applicable public notification requirements of § 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 12 months of being notified. The system must continue to inform the public annually until the significant deficiency is corrected. The information must include:

(a) The nature of the significant deficiency and the date the significant deficiency was identified by the Division;

(b) The Division approved plan and schedule for correction of the significant deficiency, including interim measures, progress to date, and any interim measures completed; and

(c) 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, 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 because it provides at least 4-log treatment of viruses for any ground water source must notify the State in writing that it is providing at least 4-log treatment of viruses and begin compliance monitoring in accordance with this section 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 because it provides at least 4-log treatment of viruses for any ground water source must notify the State in accordance with §141.403(b)(2)(i), (b)(2)(ii) and (b)(2)(iii) and conduct compliance monitoring as required under §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 §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 §141.74(a)(2) at a location approved by the State 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-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 §141.74(a)(2) at a location approved by the State 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-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. If any daily grab sample measurement falls below the State-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-determined level. Alternatively, a ground water system that serves 3,300 or fewer people may monitor continuously and meet the requirements of §141.403(b)(3)(i)(A).

7. A ground water system may discontinue 4-log treatment of viruses if the State 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 Subpart S, §141.402.

8. Failure to meet the monitoring requirements of this section is a monitoring violation and requires the ground water system to provide public notification under Subpart S, §141.402.

9. A ground water system conducting compliance monitoring under §141.403(b) must notify the State any time the system fails to meet any State-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 as soon as possible, but in no case later than the end of the next business day.

(5) Treatment Technique violations for ground water 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 § 141.402(d), a ground water system is in violation of the treatment technique requirement if, within 120 days of meeting the conditions of § 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 § 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 § 141.203 for the treatment technique violations specified in paragraphs (a), (b) and (c) of this section.

(6) Reporting and Record Keeping for ground water systems, 40 CFR, Subpart S, §141.405 is hereby incorporated by reference.

(a) In addition to the requirements of § 141.31, a ground water system regulated under this subpart must provide the following information to the Division:

1. A ground water system conducting compliance monitoring under § 141.403(b) must notify the Division any time the systems fails to meet any State-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 hours. The ground water system must notify the State as soon as possible, but in no case later than the end of the next business day.

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

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

(b) In addition to the requirements of § 141.33, a ground water system regulated under this subpart 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 § 141.493 (a)(7). Documentation shall be kept for a period not less than three years.

3. Records of decisions under § 141.402(a)(5)(ii) and records of invalidation of fecal indicator-positive ground water samples under § 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 § 141.21(c). 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 § 141.403(b):

(i) Records of the State-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-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-specified compliance requirements for membrane filtration and of parameters specified by the Division for State-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) The records kept by the Division shall be in accordance with 40 CFR § 142.14.

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