Negotiated Rule Draft No. 2
Docket No. 58-0108-1501, Dated May 18, 2015

Yellow shaded text indicates revisions made based on discussion held on April 22, 2015.

Written comment deadline for this draft – June 5, 2015

58.01.08 – Idaho Rules for Public Drinking Water Systems

002. INCORPORATION BY REFERENCE AND AVAILABILITY OF REFERENCED MATERIALS.

01. Incorporation by Reference. The following documents are incorporated by reference into these rules. (4-11-06)

a. 40 CFR Part 141, revised as of July 1, ~~2011~~2015 (excluding annual monitoring provisions in 40 CFR 141.854(a)(4),(d),(e),(f) and (h), and the Aircraft Drinking Water Rule in Subsection X) and 40 CFR Part 143, revised as of July 1, ~~2011~~2015. Any reference in these rules to requirements, procedures, or specific forms contained in any section or subsection of 40 CFR Parts 141 and 143 shall constitute the full adoption by reference of that section or subsection, including any notes and appendices therein, unless expressly provided otherwise in these rules. (~~4-4-13~~)

b. American Water Works Association (AWWA) Standards, effective December 2009, available for a fee from the AWWA, 6666 West Quincy Avenue, Denver, Colorado 80235, Telephone (800) 926-7337, http://apps.awwa.org/ebusmain/OnlineStore.aspx. (4-7-11)

003. DEFINITIONS.

The definitions set forth in 40 CFR 141.2 are herein incorporated by reference except for the definition of the terms "action level," "disinfection," "noncommunity water system," and "person~~.~~" (4-4-13)

XX **Clean Compliance History.** For the purposes of the Revised Total Coliform Rule in Subsection 100.01, clean compliance history means a record of no maximum contaminant level violations under Subsection 050.05, no monitoring violations under Subsection 100.01, and no coliform treatment technique trigger exceedances or treatment technique violations under Subsection 100.01.

~~**63. Laboratory Certification Reciprocity**. Acceptance of a laboratory certification made by another state. Laboratory reciprocity may be granted to laboratories outside of Idaho after application, proof of home state certification, and EPA performance evaluation results are submitted and reviewed. Reciprocity must be renewed after a time specified by the Idaho Laboratory Certification Officer to remain valid. (4-5-00)~~

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

XX. Level 2 Assessment. A Level 2 Assessment is an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. A Level 2 assessment provides a more detailed examination of the system (including the system's monitoring and operational practices) than does a Level 1 assessment through the use of more comprehensive investigation and review of available information, additional internal and external resources, and other relevant practices. It is conducted by an individual approved by the Department in accordance with Subsection 305.03, which may include the system operator. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g., whether a ground water system is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing.

XX. Protected Water Source. For the purposes of the Revised Total Coliform Rule (40 CFR Part 141, Subpart Y), a protected water source is a ground water well that is not susceptible to contamination on the basis of well construction, hydrologic data, or contamination history.

122. Sanitary Defects. ~~Any faulty structural condition which may allow the water supply to become contaminated.~~ A defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place. Examples of sanitary defects include but are not limited to: ~~potential~~ cross connections, inadequate distribution system pressures, inadequate or missing sanitary seal, improperly screened storage tank vents, inadequate protection from contamination during flooding, history of treatment failures, deterioration of system components, and water main leaks or breaks. ~~(12-10-92)~~

123. Sanitary Survey. An onsite review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water. The sanitary survey will include, but is not limited to the following elements: (4-5-00)

a. Source; (4-5-00)

b. Treatment; (4-5-00)

c. Distribution system; (4-5-00)

d. Finished water storage; (4-5-00)

e. Pumps, pump facilities, and controls; (4-5-00)

f. Monitoring and reporting and data verification; (4-5-00)

g. System management and operation; and (4-5-00)

h. Operator compliance with state requirements. (4-5-00)

XX. Seasonal System. A noncommunity water system that is not operated as a public water system on a year-round basis and starts up and shuts down at the beginning and end of each operating season.

(Break in Continuity of Sections)

100. MONITORING AND ANALYTICAL REQUIREMENTS.

01. Total Coliform Sampling and Analytical Requirements. The Total Coliform Rule, 40 CFR 141.21, is herein incorporated by reference and is effective until March 31, 2016. The Revised Total Coliform Rule, 40 CFR Part 141, Subpart Y, is herein incorporated by reference, excluding the annual monitoring provisions in 40 CFR 141.854 (a)(4), (d), (e), (f) and (h), and is effective April 1, 2016.
[The federal Revised Total Coliform Rule becomes effective for all public water systems on April 1, 2016 regardless of whether the state adopts the rule or not. Note that public water systems that take a routine total coliform sample prior to April 1, 2016 will be required to complete repeat total coliform monitoring under the original Total Coliform Rule in 40 CFR 141.21.]

a. Routine monitoring requirements for public water systems serving more than one thousand (1,000) people. 40 CFR 141.857 is herein incorporated by reference.

b. Routine monitoring requirements for community water systems serving one thousand (1,000) or fewer people using only ground water. 40 CFR 141.855 is herein incorporated by reference.

c. Routine monitoring requirements for subpart H public water system serving one thousand (1,000) or fewer people. 40 CFR 141.856 is herein incorporated by reference.

d. Routine monitoring requirements for non-community water system serving one thousand (1,000) or fewer people using only ground water. 40 CFR 141.854 is herein incorporated by reference, excluding the annual monitoring provisions in 40 CFR 141.854 (a)(4), (d), (e), (f), and (h).

~~**e.** Start-up procedures for seasonal systems subject to Subsections 100.01.a., c., and d.~~

~~i. Beginning April 1, 2016, all seasonal system owners and operators must demonstrate completion of a Department approved start-up procedure, including start-up sampling, prior to serving water to the public. The system owner or operator must submit information on a Department provided or approved form that includes a statement certifying that the system owner or operator followed proper start-up procedures. The form shall be submitted to the Department within 30 (thirty) days following the system's start-up date.~~

~~ii. The Department may exempt any seasonal system from Subsection 100.01.e. if the entire distribution system remains pressurized during the entire period that the system is not operating, except that the systems that monitor less frequently than monthly must still monitor during the vulnerable period designated by the Department. The Department may exempt a seasonal system from Subsection 100.01.e. if the owner or operator of the system meets all of the following conditions:~~

~~(1) Requests an exemption in writing to the Department for approval;~~

~~(2) Demonstrates a clean compliance history as defined in Section 003 for a minimum of five (5) years;~~

~~(3) Has no uncorrected significant deficiencies from the most recent sanitary survey; and~~

~~(4) Total coliform samples submitted to a certified laboratory within 30 (thirty) days prior to serving water to the public demonstrate the absence of total coliform.~~
[Subsection 100.01.e moved to Subsection 552.08]

~~**01. Microbiological Contaminant Sampling and Analytical Requirements**. (10-1-93)~~

~~**a.** 40 CFR 141.21 is herein incorporated by reference. (4-4-13)~~

~~**b.** The Department may reduce the total coliform monitoring frequency for community water systems serving twenty-five (25) to one thousand (1000) persons, as specified in 40 CFR 141.21(a)(2) and Subsection 100.01. The Department may allow community water systems serving twenty-five (25) to one thousand~~

~~(1000) persons to reduce the total coliform monitoring frequency to once per quarter when; (12-10-92)~~

~~i. The system submits a written request to the Department in advance of the requirement; and (12-10-92)~~

~~ii. There has been no history of total coliform contamination in its current configuration; and (10-1-93)~~

~~iii. The system has been in compliance with the total coliform monitoring requirements for the last three (3) years; and (12-10-92)~~

~~iv. A sanitary survey has been conducted within the past five (5) years which indicates to the Department that there are no deficiencies which could affect microbial quality; and (12-10-92)~~

~~v. The system uses only a ground water source that is protected. (12-10-92)~~

~~**c.** The Department may reduce the total coliform monitoring frequency for noncommunity water systems serving less than one thousand (1000) persons as specified in 40 CFR 141.21(a)(3)(i) and Subsection 100.01 of this rule. The Department may allow noncommunity water systems serving less than one thousand (1000) persons to reduce the total coliform monitoring frequency to once per year when; (12-10-92)~~

~~i. The system submits a written request to the Department in advance of the requirement; and (12-10-92)~~

~~ii. No coliforms have been detected in the last three (3) years of monitoring; and (12-10-92)~~

~~iii. The system has been in compliance with the total coliform monitoring requirements for the last three (3) years; and (12-10-92)~~

~~iv. A sanitary survey has been conducted within the past five (5) years which indicates to the Department that there are no deficiencies which could affect microbial quality; and (12-10-92)~~

~~v. The system uses only a ground water source that is protected. (12-10-92)~~

~~**d.** The Department may reduce the total coliform monitoring frequency for noncommunity water systems serving more than one thousand (1000) persons during any month the system serves one thousand (1000) persons or fewer as specified in 40 CFR 141.21(a)(3)(ii) and Subsection 100.01. The Department will allow noncommunity water systems serving more than one thousand (1000) persons to reduce the total coliform monitoring frequency for any month the system serves one thousand (1000) persons or fewer, down to a minimum of one (1) sample per year, provided; (10-1-93)~~

~~i. The system submits a written request to the Department in advance of the requirement; and (12-10-92)~~

~~ii. No coliforms have been detected in the last three (3) years of monitoring; and (12-10-92)~~

~~iii. The system has been in compliance with the total coliform monitoring requirements for the last three (3) years; and (12-10-92)~~

~~iv. A sanitary survey has been conducted within the past five (5) years which indicates that there are no deficiencies which could affect microbial quality; and (4-4-13)~~

~~v. The system uses only a ground water source that is protected. (12-10-92)~~

~~**e.** A system must collect repeat samples within twenty four (24) hours of notification of positive results as specified in 40 CFR 141.21(b) and Subsection 100.01. The Department may allow a system to delay~~

~~collection of repeat samples if the system: (12-10-92)~~

~~i. Identifies the cause of the contamination; (12-10-92)~~

~~ii. Is making progress towards correcting the problem; (12-10-92)~~

~~iii. Submits a written request to delay collecting repeat samples and a written statement admitting an acute MCL violation; (12-10-92)~~

~~iv. Follows public notification requirements specified under 40 CFR Part 141, Subpart Q for Tier 1 MCL violations including notice for consumers to boil their water; (4-4-13)~~

~~v. Continues to collect the regularly scheduled number of routine samples; (12-10-92)~~

~~vi. Collects all repeat samples immediately following correction of the problem; and (12-10-92)~~

~~vii. Collects five (5) routine samples during the month following the end of the violation as required under 40 CFR 141.21 (b)(5), unless waived as allowed under that paragraph. (12-10-92)~~

02. Turbidity Sampling and Analytical Requirements. 40 CFR 141.22 is herein incorporated by reference. (4-4-13)

03. Inorganic Chemical Sampling and Analytical Requirements. 40 CFR 141.23 is herein incorporated by reference. (4-4-13)

04. Organic Chemicals, Sampling and Analytical Requirements. 40 CFR 141.24 is herein incorporated by reference. (4-4-13)

05. Analytical Methods for Radioactivity. 40 CFR 141.25 is herein incorporated by reference. (4-4-13)

06. Monitoring Frequency and Compliance Requirements for Radioactivity in Community Water Systems. 40CFR 141.26 is herein incorporated by reference. (4-4-13)

07. Monitoring Waivers. 40 CFR 141.23(b) 141.23(c), 141.24(f), 141.24(h) are herein incorporated by reference. (4-4-13)

a. Waivers from sampling requirements in Subsections 100.03, 100.04, 200.01, and 503.03.e.v. may be available to all systems for all contaminants except nitrate, nitrite, and disinfection byproducts and are based upon a vulnerability assessment, use assessment, the analytical results of previous sampling, or some combination of vulnerability assessment, use assessment, and analytical results. (4-4-13)

b. There are two (2) general types of monitoring waivers: (12-10-92)

i. Waivers based exclusively upon previous analytical data (12-10-92)

ii. Waivers based on a use or vulnerability assessment. (12-10-92)

c. Waivers are to be made by the Department on a contaminant specific basis and must be in writing. (12-10-92)

d. Vulnerability assessments may be conducted by the Department, the water system, or a third party organization. The Department shall approve or disapprove all vulnerability assessments in writing. (12-10-92)

e. Water systems which do not receive waivers shall sample at the required initial and repeat monitoring frequencies. (12-10-92)

f. If a system elects to request a waiver from monitoring, it shall do so in writing at least sixty (60) days prior to the required monitoring deadline date. (10-1-93)

08. Initial Monitoring Schedule. In addition to the requirements specified in 40 CFR 141.23, 40 CFR 141.24, and 40 CFR 141.40, initial monitoring must be completed according to the following schedule unless otherwise specified by the Department: (4-4-13)

a. Public water systems serving more than one hundred (100) people must conduct initial monitoring before January 1, 1995 except that: (10-1-93)

i. Initial monitoring for nitrate and nitrite must be completed before January 1, 1994 for all surface water sources serving transient noncommunity public water systems and for all ground water sources serving any public water system. (10-1-93)

ii. Initial monitoring for nitrate and nitrite must be completed before April 1, 1993 for all surface water sources serving community or nontransient noncommunity public water systems. (10-1-93)

iii. Initial monitoring required under 40 CFR 141.23(c) must be completed before January 1, 1994 for all surface water sources serving community or nontransient noncommunity public water systems. (10-1-93)

b. Public water systems serving one hundred (100) or less people must conduct initial monitoring before January 1, 1996 except that: (10-1-93)

i. Initial monitoring for nitrate and nitrite must be completed before January 1, 1994 for all surface water sources serving transient noncommunity public water systems and for all ground water sources serving a public water system. (10-1-93)

ii. Initial monitoring for nitrate and nitrite must be completed before April 1, 1993 for all surface water sources serving community or nontransient noncommunity public water systems. (10-1-93)

iii. Initial monitoring required under 40 CFR 141.23(c) must be completed before January 1, 1994 for all surface water sources serving community or nontransient noncommunity public water systems. (10-1-93)

09. Alternate Analytical Techniques. 40 CFR 141.27 is herein incorporated by reference. (10-1-93)

10. Approved Laboratories. 40 CFR 141.28, and beginning April 1, 2016, 40 CFR 141.852(b) ~~is~~ are herein incorporated by reference. All analyses conducted pursuant to these rules, except those listed below, shall be performed in laboratories certified or granted reciprocity by the Idaho Department of Health and Welfare, Bureau of Laboratories, as provided in IDAPA 16.02.13, "Rules Governing Certification of Idaho Water Quality Laboratories." The following analyses may be performed by any person acceptable to the Department of Environmental Quality: ~~(4-4-13)~~

a. pH; (12-10-92)

b. Turbidity (Nephelometric method only); (12-10-92)

c. Daily analysis for fluoride; (12-10-92)

d. Temperature; (5-8-09)

e. Disinfectant residuals, except ozone, which shall be analyzed using the Indigo Method or an acceptable automated method pursuant to Subsection 300.05.~~e~~d.; ~~(5-8-09)~~

f. Alkalinity; (5-8-09)

g. Calcium; (5-8-09)

h. Conductivity; (5-8-09)

i. Silica; and (5-8-09)

j. Orthophosphate. (5-8-09)

11. Monitoring of Consecutive Water Systems. 40 CFR 141.29 is herein incorporated by reference. (4-4-13)

12. Disinfection Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors. 40 CFR Part 141, Subpart L is herein incorporated by reference. (4-4-13)

(Break in Continuity of Sections)

150. REPORTING, PUBLIC NOTIFICATION, RECORDKEEPING.

01. Reporting Requirements. 40 CFR 141.31 is herein incorporated by reference. (4-4-13)

02. Public Notification of Drinking Water Violations. 40 CFR Part 141, Subpart Q is herein incorporated by reference. (4-4-13)

03. Record Maintenance. 40 CFR 141.33 is herein incorporated by reference. (4-4-13)

04. Reporting for Unregulated Contaminant Monitoring Results. 40 CFR 141.35 is herein incorporated by reference. (4-4-13)

05. Reporting and Record Keeping Requirements for the Interim Enhanced Surface Water Treatment Rule. 40 CFR 141.175 is herein incorporated by reference. (4-4-13)

06. Reporting and Record Keeping Requirements for the Disinfectants and Disinfectant Byproducts Rule. 40 CFR 141.134 is herein incorporated by reference. (4-4-13)

07. Reporting and Record Keeping Requirements for the Revised Total Coliform Rule. 40 CFR 141.861 is herein incorporated by reference.

(Break in Continuity of Sections)

300. FILTRATION AND DISINFECTION.

01. General Requirements. 40 CFR 141.70 is herein incorporated by reference. Each public water system using a surface water source or ground water source directly influenced by surface water shall be operated by personnel, as specified in Sections 553 and 554, who have met state requirements for licensing of water system operators. (4-4-13)

02. Filtration. 40 CFR 141.73 is herein incorporated by reference. (4-4-13)

a. Each system which provides filtration treatment shall submit engineering evaluations, other documentation, or some combination of engineering evaluations and other documentation as required by the Department to demonstrate ongoing compliance with these rules. (4-7-11)

b. The Department will establish filtration removal credit on a system-by-system basis. Unless otherwise demonstrated to the satisfaction of the Department, the maximum log removal credit allowed for filtration is as follows:

Maximum Log Removal			
Filtration Type	**Giardia lamblia**	**Viruses**	**Cryptosporidium**
Conventional	2.5	2.0	2.5
Direct	2.0	1.0	2.0
Slow sand	2.0	2.0	2.0
Diatomaceous earth	2.0	1.0	2.0
Microfiltration	3.0	0.5	3.0
Ultrafiltration	3.5	2.0	3.5
Nanofiltration	4.0	3.0	4.0
Reverse Osmosis	4.0	3.0	4.0
Alternate technology	2.0	0	2.0

(4-4-13)

c. Filtration removal credit shall be granted for filtration treatment provided the system is: (4-7-11)

i. Operated in accordance with the Operations Plan specified in Subsection 552.03.a.; and (4-7-11)

ii. The system is in compliance with the turbidity performance criteria specified under 40 CFR 141.73; and (4-7-11)

iii. Coagulant chemicals must be added and coagulation and flocculation unit process must be used at all times during which conventional and direct filtration treatment plants are in operation; and (4-7-11)

iv. Slow sand filters are operated at rates not to exceed~~:~~ one-tenth (0.1) gallons per minute per square foot or as approved by the Department; and ~~(4-4-13)~~

~~(1) One-tenth (0.1) gallons per minute per square foot when anticipated temperatures are expected above five degrees Celsius (5°C); and (4-4-13)~~

~~(2) Five hundredths (0.05) gallons per minute per square foot when anticipated temperatures are expected at or below five degrees Celsius (5°C); and (4-4-13)~~

v. Diatomaceous earth filters are operated at a rate not to exceed one point five (1.5) gallons per minute per square foot. (4-7-11)

03. Criteria for Avoiding Filtration. 40 CFR 141.71 is herein incorporated by reference. (4-4-13)

04. Disinfection. 40 CFR 141.72 is herein incorporated by reference. (10-1-93)

a. In addition to the disinfection requirements in 40 CFR 141.72, each system with a surface water

source or ground water source directly influenced by surface water shall maintain a minimum of at least two-tenths (0.2) parts per million of chlorine in the treated water after an effective contact time of at least thirty (30) minutes at peak hour demand before delivery to the first customer. Effective contact time is either demonstrated or calculated.

i. Demonstrated effective contact time is generally determined by tracer studies on a completed contact basin. Prior to conducting a tracer study, a testing plan shall be submitted to the Department for review and approval. The tracer chemical shall not be reactive with anything in the water or be consumed in the process.

ii. Calculated effective contact time for tank type contact basins is based on tank baffling and inlet/outlet configurations for the maximum hourly flow rate through that contact basin. Calculated effective contact time in a "pipeline type contact basin" (often called a pipeline contactor) is calculated by dividing the internal volume of the pipe by the maximum hourly flow rate through that pipeline contactor. ~~(4-4-13)~~

b. The Department may allow a system to utilize automatic shut-off of water to the distribution system whenever total disinfectant residual is less than two-tenths (0.2) mg/l rather than provide redundant disinfection components and auxiliary power as required in 40 CFR 141.72(a)(2). An automatic water shut-off may be used if the system demonstrates to the satisfaction of the Department that, at all times, a minimum of twenty (20) psi pressure and adequate fire flow can be maintained in the distribution system when water delivery is shut-off to the distribution system and, at all times, minimum Giardia lamblia and virus inactivation removal rates can be achieved prior to the first customer. (12-10-92)

c. Each system which is required to provide filtration must provide disinfection treatment such that filtration plus disinfection provide at least 3-Log or ninety-nine and nine tenths percent (99.9%) inactivation/removal of Giardia lamblia cysts and at least 4-Log or ninety-nine and ninety-nine hundredths percent (99.99%) inactivation/removal of viruses as specified in 40 CFR 141.72 and Section 300, and at least 2-Log or ninety-nine percent (99%) removal of Cryptosporidium as required by 40 CFR Part 141, Subpart P or Subpart T. However, in all cases the disinfection portion of the treatment train shall be designed to provide not less than five tenths (0.5) log Giardia lamblia inactivation, irrespective of the Giardia lamblia removal credit awarded to the filtration portion of the treatment train. (4-4-13)

05. Analytical and Monitoring Requirements. 40 CFR 141.74 is herein incorporated by reference. (4-4-13)

a. Each public water system which is required to provide disinfection shall monitor as follows: (~~4-4-13~~)

i. Each day the system is in operation, the purveyor shall determine the total level of inactivation of Giardia lamblia cysts and viruses achieved through disinfection based on CT99.9 values provided in 40 CFR 141.74(b)(3) (Tables 1.1 through 1.6, 2.1 and 3.1). (12-10-92)

ii. At least once per day, the system shall monitor the following parameters to determine the total inactivation ratio achieved through disinfection: (12-10-92)

(1) Temperature of the disinfected water at each residual disinfectant concentration sampling point; and (12-10-92)

(2) If using chlorine, the pH of the disinfected water at each chlorine residual sampling point. (12-10-92)

(3) The effective contact time, "T," must be determined each day during peak hour demand. Disinfectant contact time, "T," in pipelines used for Giardia lamblia and virus inactivation shall be calculated by dividing the internal volume of the pipe by the peak hour flow rate through that pipe. Effective contact time, "T," for all other system components used for Giardia lamblia and virus inactivation shall be determined by tracer studies or other evaluations or calculations acceptable to the Department. (4-4-13)

(4) The residual disinfectant concentrations at each residual disinfectant sampling point at or before

the first customer, must be determined each day during peak hour demand, or at other times approved by the Department. (5-8-09)

iii. The purveyor may demonstrate to the Department, based on a Department approved on-site disinfection challenge study protocol, that the system is achieving disinfection requirements specified in Subsection 300.04 utilizing CT99.9 values other than those specified in 40 CFR 141.74(b)(3) (Tables 2.1 and 3.1) for ozone, chlorine dioxide, and chloramine. (4-4-13)

iv. The total inactivation ratio shall be calculated as follows: (12-10-92)

(1) If the system applies disinfectant at only one (1) point, the system shall determine the total inactivation ratio by either of the two (2) following methods: (12-10-92)

(a) One inactivation ratio (CTcalc/CT99.9) is determined at/or before the first customer during peak hour demand; or (5-8-09)

(b) Sequential inactivation ratios are calculated between the point of disinfectant application and a point at or before the first customer during peak hour demand. The following method must be used to calculate the total inactivation ratio: (5-8-09)

(i) Step 1: Determine (CTcalc/CT99.9) for each sequence. (12-10-92)

(ii) Step 2: Add the (CTcalc/CT99.9) values for all sequences. The result is the total inactivation ratio. (12-10-92)

(2) If the system uses more than one point of disinfectant application at or before the first customer, the system must determine the CT value of each disinfection sequence immediately prior to the next point of disinfectant application during peak hour demand. The sum of the (CTcalc/CT99.9) values from all sequences is the total inactivation ratio. (CTcalc/CT99.9) must be determined by the methods described in 40 CFR 141.74(b)(4)(i)(B). (5-8-09)

v. Log removal credit for disinfection shall be determined by multiplying the total inactivation ratio by three (3). (12-10-92)

vi. The Department may reduce the CT monitoring requirements specified under Section 300, for any system which demonstrates that the required inactivation levels are consistently exceeded. Reduced CT monitoring shall be allowed only where the reduction in monitoring will not endanger the health of consumers served by the water system. (12-10-92)

b. Residual disinfectant concentrations for ozone must be measured using the Indigo Method, or automated methods may be used if approved by the Department as provided for in 40 CFR 141.74(a)(~~4~~2). ~~(4-4-13)~~

c. Unfiltered Subpart H systems. 40 CFR 141.857(c) is herein incorporated by reference.

~~c~~d. As provided for in 40 CFR 141.74(b), the Department may specify interim monitoring requirements for unfiltered systems notified by the Department or U.S. Environmental Protection Agency that filtration treatment must be installed. Until filtration is installed, systems shall conduct monitoring for turbidity and disinfectant residuals as follows unless otherwise specified by the Department~~s;~~. (4-4-13)

i. Disinfectant residual concentrations entering the distribution system shall be measured at the following minimum frequencies, and samples must be taken at evenly spaced intervals throughout the workday.

Minimum Frequencies	
Population	Samples/day
Less than 500	1
501 - 1000	2
1,001 - 2,500	3
Greater than 2501	4

(12-10-92)

ii. Turbidity shall be measured at least once per day at the entry point to the distribution system. (12-10-92)

iii. The Department may, at its discretion, reduce the turbidity monitoring frequency for any noncommunity system which demonstrates to the satisfaction of the Department: (12-10-92)

(1) A free chlorine residual of two-tenths (0.2) part per million is maintained throughout the distribution system; (12-10-92)

(2) The water source is well protected; (12-10-92)

(3) Through March 31, 2016, ~~T~~the total coliform MCL is not exceeded, or after March 31, 2016, a Level 1 or Level 2 Assessment has not been triggered in accordance with 40 CFR 141.859; and ~~(12-10-92)~~

(4) No significant health risk is present. (12-10-92)

e~~d~~. The Department may allow systems with surface water sources or ground water sources under the direct influence of surface water, to substitute continuous turbidity monitoring for grab sample monitoring as specified in 40 CFR 141.74(b)(2) and 40 CFR 141.74(c)(1) and Subsection 300.05. The Department may allow continuous turbidity monitoring provided the continuous turbidimeter is operated, maintained, standardized and calibrated per the manufacturer's recommendations. For purposes of determining compliance with turbidity performance criteria, discrete values must be recorded every four (4) hours water is supplied to the distribution system. (10-1-93)

f~~e~~. The Department may allow systems using both a surface water source(s), or ground water source(s) under the direct influence of surface water, and one (1) or more ground water sources, to measure disinfectant residual at points other than the total coliform sampling points, as specified in 40 CFR 141.74(b)(6)(i) and 40 CFR 141.74(c)(3)(i) and Subsection 300.05. The Department may allow alternate sampling points provided the system submits an ~~acceptable~~ alternate monitoring plan to the Department for approval in advance of the monitoring requirement that demonstrates the alternative points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as specified in 40 CFR 141.74(a)(1), may be measured in lieu of residual disinfectant concentration as outlined in 40 CFR 141.74(b)(6)(i). ~~(10-1-93)~~

~~f~~g. The Department may allow a reduced turbidity monitoring frequency for systems using slow sand filtration or technology other than conventional, direct, or diatomaceous earth filtration, as specified in 40 CFR 141.74(c)(1) and Subsection 300.05. To be considered for a reduced turbidity monitoring frequency, a system must submit a written request to the Department in advance of the monitoring requirement. (12-10-92)

06. Reporting and Recordkeeping Requirements. 40 CFR 141.75 is herein incorporated by reference. (4-4-13)

a. As provided in 40 CFR 141.75(a) and Section 300, the Department may establish interim reporting requirements for systems notified by the Department or U.S. Environmental Protection Agency that filtration treatment must be installed as specified in 40 CFR 141.75(a) and as referred to in Subsection 300.06. Until filtration treatment is installed, systems required to install filtration treatment shall report as follows: (4-4-13)

i. The purveyor shall immediately report to the Department via telephone or other equally rapid means, but no later than the end of the next business day, the following information: (12-10-92)

(1) The occurrence of a waterborne disease outbreak potentially attributable to that water system; (12-10-92)

(2) Any turbidity measurement which exceeds five (5) NTU; and (12-10-92)

(3) Any result indicating that the disinfectant residual concentration entering the distribution system is below two-tenths (0.2) mg/l free chlorine. (12-10-92)

ii. The purveyor shall report to the Department within ten (10) days after the end of each month the system serves water to the public the following monitoring information using a Department-approved form: (12-10-92)

(1) Turbidity monitoring information; and (12-10-92)

(2) Disinfectant residual concentrations entering the distribution system. (12-10-92)

iii. Personnel qualified under Subsection 300.01 shall complete and sign the monthly report forms submitted to the Department as required in Subsection 300.06. (12-10-92)

b. In addition to the reporting requirements in 40 CFR 141.75(b) pertaining to systems with filtration treatment, each public water system which provides filtration treatment must report the level of Giardia lamblia and virus inactivation/removal achieved each day by filtration and disinfection. (4-4-13)

07. Recycle Provisions. 40 CFR 141.76 is herein incorporated by reference. (4-4-13)

a. The Department shall evaluate recycling records kept by water systems pursuant to 40 CFR 141.76 during sanitary surveys, comprehensive performance evaluations, or other inspections. (5-3-03)

b. The Department may require a system to modify recycling practices if it can be shown that these practices adversely affect the ability of the system to meet surface water treatment requirements. (5-3-03)

(Break in Continuity of Sections)

303. SANITARY SURVEYS FOR PUBLIC WATER SYSTEMS USING GROUND WATER.
The Department shall conduct a sanitary survey of all public water systems that use ground water. 40 CFR Part 141, Subpart S, is herein incorporated by reference. (4-4-13)

01. Frequency. For non-community water systems, a sanitary survey shall be conducted every five (5) years. For community water systems, a sanitary survey shall be conducted every three (3) years, except as provided below. (5-8-09)

a. A community water system may have a sanitary survey conducted every five (5) years if the system provides at least a four (4)-log treatment of viruses (using inactivation, removal, or a Department approved combination of 4-log inactivation and removal) before or at the first customer for all of its ground water sources.

(5-8-09)

b. A community water system may have a sanitary survey conducted every five (5) years if it has an outstanding performance record, as determined by the Department and documented in previous sanitary surveys, and has no history of Total Coliform Rule or Revised Total Coliform Rule MCL or monitoring violations under Subsection 100.01~~.a.~~ since the last sanitary survey. ~~(5-8-09)~~

02. **Report**. A report describing the results of the sanitary survey shall be provided to the water system. (5-8-09)

a. As part of the sanitary survey report or as an independent action, the Department shall provide written notice to the water system describing any significant deficiency within thirty (30) days after the Department identifies the significant deficiency. The notice may specify corrective actions and deadlines for completion of corrective actions. (5-8-09)

b. The Department may, at its discretion, provide this written notice at the time of the sanitary survey. (5-8-09)

03. **Significant Deficiencies**. For each of the eight (8) elements of a sanitary survey of a ground water system, the following deficiencies shall in all cases be considered significant for the purposes of the notice required in Subsection 303.02. Decisions about the significance of other deficiencies identified during the sanitary survey shall be at the Department's discretion, as indicated in the Department's sanitary survey protocol. (5-8-09)

a. Source: Lack of a sanitary well cap as specified in Subsection 511.06.b. (5-8-09)

b. Treatment: (4-4-13)

i. Chemical addition lacks emergency shut-off as specified in Subsection 531.02.b.ii. (4-4-13)

ii. Chemical addition is not flow proportioned where the rate of flow or chemical demand is not reasonably constant, as specified in Subsection 531.02.b.ii. (4-4-13)

c. Distribution system: No means for flushing dead end water mains, as specified in Subsection 542.09. (5-8-09)

d. Finished water storage: Roof leaking, as specified in Subsections 544.09 and 544.09.c. (5-8-09)

e. Pumps, pump facilities, and controls: No accessible check valve between pump and shut-off valve, as specified in Subsection 511.04. (5-8-09)

f. Monitoring, reporting, and data verification: Repeated failure to collect the required number and type of Total Coliform Rule or the Revised Total Coliform Rule samples during the most recent two (2) year period, as specified in Subsection 100.01~~.a~~. ~~(5-8-09)~~

g. System management and operation: History of frequent depressurization in the distribution system in violation of Subsection 552.01. (5-8-09)

h. Operator compliance with state licensing requirements: Responsible charge operator is not licensed as required in Subsection 554.02. (5-8-09)

04. **Response Required**. The owner of a public water system must respond in writing, describing how and on what schedule the system will address all significant deficiencies, not later than thirty (30) days after receiving notification from the Department. (4-4-13)

05. **Consultation with the Department**. Public water systems shall consult with the Department prior to taking specific corrective actions in response to significant deficiencies identified during a sanitary survey unless

such corrective actions are specified in detail by the Department in its written notification under Subsection 303.02. (5-8-09)

06. **Violation**. Failure to address significant deficiencies identified in a sanitary survey that are within the control of the public water system and its governing body shall constitute a violation of these rules. (5-8-09)

(Break in Continuity of Sections)

305. COLIFORM TREATMENT TECHNIQUE TRIGGERS AND ASSESSMENT REQUIREMENTS FOR PROTECTION AGAINST POTENTIAL FECAL CONTAMINATION.
40 CFR 141.859, excluding 40 CFR 141.859(a)(2)(iii), is herein incorporated by reference.

01. Treatment technique triggers. Systems owners and operators must ensure that assessments are conducted in accordance with Subsection 305.02 after exceeding treatment technique triggers in this subsection.
[40 CFR 141.859]

a. Level 1 treatment technique triggers: **[40 CFR 141.859(a)(1)]**

i. For systems taking forty (40) or more samples per month, the system exceeds five percent (5.0%) total coliform-positive samples for the month. **[40 CFR 141.859(a)(1)]**

ii. For systems taking fewer than forty (40) samples per month, the system has two or more total coliform positive samples in the same month. **[40 CFR 141.859(a)(1)(ii)]**

iii. The system owner or operator fails to take every required repeat sample after any single total coliform-positive sample. **[40 CFR 141.859(a)(1)(iii)]**

b. Level 2 treatment technique triggers: **[40 CFR 141.859(a)(2)]**

i. An *E.coli* MCL violation, as specified in Subsection 050.05 and Subsection 101.01 of these rules. **[40 CFR 141.859(a)(2)(i)]**

ii. A second or any additional Level 1 triggers as defined in Subsection 305.01.a. within a rolling 12-month period, unless the Department has determined a likely reason that the samples that caused the first Level 1 treatment technique trigger were total coliform-positive and has established that the system has corrected the problem. **[40 CFR 141.859(a)(2)(ii)]**

02. Requirements for assessments.
[40 CFR 141.859(b)]

a. System owners and operators must ensure that Level 1 and 2 assessments are conducted in order to identify the possible presence of sanitary defects and defects in distribution system coliform monitoring practices. The assessment must be conducted consistent with any Department directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system.
[This is a combination of 40 CFR 141.859(b), (b)(2), and 40 CFR 141.2 in the definitions for assessments. The federal definitions include implementation requirements.]

b. When conducting assessments, owners and operators must ensure that the assessor evaluates minimum elements that include review and identification of inadequacies in sample sites; sampling protocol; sample processing; atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g., small ground water systems); and existing water quality monitoring data. The system owner or operator must ensure the assessments are consistent with the elements in the Department provided forms for Level 1 and Level 2 assessments.

[40 CFR 141.859(b)(2) where "The system must conduct the assessment consistent with any state directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system." were made to work with the Department provided form.]

c. Level 1 Assessments. A system owner or operator must conduct a Level 1 assessment if the system exceeds one of the treatment technique triggers in Subsection 305.01.a. as soon as practical after any trigger level is identified and submit a completed Level 1 assessment report or form to the Department within thirty (30) days after the system learns that it has exceeded a trigger.
[40 CFR 141.859(b)(3)(i) broken apart into discrete requirements]

i. The completed assessment report or form must describe sanitary defects detected, corrective actions completed, and a proposed timetable for any corrective actions not already completed. The assessment report or form may also note that no sanitary defects were identified.
[40 CFR 141.859(b)(3)(i) broken apart into discrete requirements]

ii. If the Department reviews the completed Level 1 report or form and determines that the assessment is not sufficient (including any proposed timetable for any corrective actions not already completed), the Department will consult with the owner or operator of the system. If the Department requires revisions after consultation, the system owner or operator must submit a revised assessment report or form to the Department on an agreed-upon schedule not to exceed thirty (30) days from the date of consultation. **[40 CFR 141.859(b)(3)(ii)]**

iii. Upon completion and submission of the assessment report or form by the system owner or operator, the Department will determine if the system has identified a likely cause for the Level 1 trigger and, if so, establish that the system has corrected the problem, or has included a schedule acceptable to the Department for correcting the problem. **[40 CFR 141.859(b)(3)(iii)]**

d. Level 2 Assessments. A system owner or operator must ensure that a Level 2 assessment is conducted if the system exceeds one of the treatment technique triggers in Subsection 305.01.b. The owner or operator must comply with any expedited actions or additional action required by the Department in the case of an *E.coli* MCL violation. **[40 CFR 141.859(b)(4) (portion of this citation of the federal rule is in Subsection 02.a)]**

i. The system owner or operator must ensure that a Level 2 assessment is conducted by the Department or a party approved by the Department as described in Subsection 305.03 as soon as practical after any trigger in Subsection 305.01.b. and must submit a completed Level 2 assessment report or form to the Department within 30 (thirty) days after the system learns that it has exceeded a trigger if the assessment was conducted by a party other than the Department. **[40 CFR 141.859(b)(4)(i)]**

ii. The Department will schedule and conduct Level 2 assessments for an *E.coli* treatment technique trigger in Subsection 305.01.b.i. unless the Department approves another party to conduct the assessment as outlined in Subsection 305.03.

iii. A second or any additional triggered Level 2 Assessments within a rolling twelve (12) month period must be conducted by a Department approved third party even if the public water system has staff or management with the approved certification.

iv. The completed assessment report or form must describe sanitary defects detected, corrective actions completed, and a proposed timetable for any corrective actions not already completed. The assessment report or form may also note that no sanitary defects were identified. **[This was a portion of 40 CFR 141.859(b)(4)(i)]**

v. If the Department reviews the completed Level 2 report or form and determines that the assessment is not sufficient (including any proposed timetable for any corrective actions not already completed), the Department will consult with the owner or operator of the system. If the Department requires revisions after consultation, the system owner or operator must submit a revised assessment report or form to the Department on an agreed-upon schedule not to exceed 30 (thirty) days from the date of consultation. **[40 CFR 141.859(b)(4)(iii)]**

vi. Upon completion and submission of the assessment report or form by the system owner or operator, the Department will determine if the system has identified a likely cause for the Level 2 trigger and, if so, establish that the system has corrected the problem, or has included a schedule acceptable to Department for correcting the problem. **[40 CFR 141.859(b)(4)(iv)]**

e. Corrective action. Systems must correct sanitary defects found through either Level 1 or Level 2 assessments conducted under this section. For corrections not completed by the time of submission of the assessment report or form, the system must complete the corrective action(s) in compliance with a timetable approved by the Department in consultation with the system. The system must notify the Department when each scheduled corrective action is completed. **[40 CFR 141.859(c)]**

f. Consultation. At any time during the assessment or corrective action phase, either the water system or the Department may request a consultation with the other party to determine the appropriate actions to be taken. The system may consult with the Department on all relevant information that may impact its ability to comply with a requirement of this Section, including the method of accomplishment, an appropriate timeframe, and other relevant information. **[40 CFR 141.859(d)]**

03. Approved Parties for Level 2 Assessments. The system may conduct a Level 2 assessment if the system has staff or management with the certification or qualifications outlined in this Subsection or if the system hires parties that meet the qualifications in this Subsection. The following parties are approved by the Department to conduct Level 2 assessments:
[Primacy requirement. The state must identify who can conduct Level 2 Assessments.]

a. The Department or persons contracted with the Department who are trained to conduct sanitary surveys;

b. Currently licensed operators in good standing that are licensed through the Idaho Bureau of Occupational Licensing with a drinking water classification of Distribution I through IV or Treatment I through IV and that are licensed at least to the classification level of the public water system requiring the Level 2 assessment; or

c. Licensed professional engineers licensed by the state of Idaho and qualified by education and ~~or~~ experience in the specific technical fields involved in these rules.

(Break in Continuity of Sections)

552. OPERATING CRITERIA FOR PUBLIC WATER SYSTEMS.

01. Quantity and Pressure Requirements. Design requirements regarding pressure analysis are found in Section 542.13. (5-8-09)

a. Minimum Capacity. The capacity of a public drinking water system shall be at least eight hundred (800) gallons per day per residence. (5-8-09)

i. The minimum capacity of eight hundred (800) gallons per day shall be the design maximum day demand rate exclusive of irrigation and fire flow requirements. (5-8-09)

ii. The minimum capacity of eight hundred (800) gallons per day is only acceptable if the public drinking water system has equalization storage of finished water in sufficient quantity to compensate for the difference between a water system's maximum pumping capacity and peak hour demand. (5-8-09)

iii. The design capacity of a public drinking water system for material modifications may be less than eight hundred (800) gallons per day per residence if the water system owner provides information that demonstrates to the Department's satisfaction the maximum day demand for the system, exclusive of irrigation and fire flows, is less than eight hundred (800) gallons per day per residence. (5-8-09)

b. Pressure. All public water systems shall meet the following requirements: (4-7-11)

i. Any public water system shall be capable of providing sufficient water during maximum day demand conditions, including fire flow where provided, to maintain a minimum pressure of twenty (20) psi throughout the distribution system, at ground level, as measured at the service connection or along the property line adjacent to the consumer's premises. (4-7-11)

ii. Public Notification. (4-4-13)

(1) During unplanned or emergency situations, when water pressure within the system is known to have fallen below twenty (20) psi, the water supplier must notify the Department, provide public notice to the affected customers within twenty-four (24) hours, and disinfect or flush the system as appropriate. When sampling and corrective procedures have been conducted and after determination by the Department that the water is safe, the water supplier may re-notify the affected customers that the water is safe for consumption. The water supplier shall notify the affected customers if the water is not safe for consumption. ~~(4-4-13)~~

(2) During planned maintenance or repair situations, when water pressure within the system is expected to fall below twenty (20) psi, the water supplier must provide public notice to the affected customers prior to the planned maintenance or repair activity and shall ensure that the water is safe for consumption. (4-4-13)

iii. If an initial investigation by the water supplier fails to discover the causes of inadequate or excessive pressure, the Department may require the water supplier to conduct a local pressure monitoring study to diagnose and correct pressure problems. Compliance with these requirements by water systems that do not have a meter vault or other point of access at the service connection or along the property line adjacent to the consumer's premises where pressure in the distribution system can be reliably measured shall be determined by measurements within the consumer's premises, or at another representative location acceptable to the Department. (4-4-13)

iv. Copies of pressure monitoring study reports required under Subsection 552.01.b.iii. detailing study results and any resulting corrective actions planned or performed by the public water system shall be submitted to the Department in accordance with these rules. (4-7-11)

v. The following public water systems or service areas of public water systems shall maintain a minimum pressure of forty (40) psi throughout the distribution system, during peak hour demand conditions, excluding fire flow, measured at the service connection or along the property line adjacent to the consumer's premises. (5-8-09)

(1) Any public water system constructed or substantially modified after July 1, 1985. (5-8-09)

(2) Any new service areas. (5-8-09)

(3) Any public water system that is undergoing material modification where it is feasible to meet the pressure requirements as part of the material modification. (5-8-09)

vi. Any public water system shall keep static pressure within the distribution system below one hundred (100) psi and should ordinarily keep static pressure below eighty (80) psi. Pressures above one hundred (100) psi shall be controlled by pressure reducing valve stations installed in the distribution main. In areas where failure of installed pressure reducing valve stations would result in extremely high pressure, pressure relief valves may be required. The Department may approve the use of pressure reducing devices at individual service connections on a case by case basis, if it can be demonstrated that higher pressures in portions of the distribution system are required for efficient system operation. If system modification will cause pressure to routinely exceed eighty (80) psi, or if a check valve or an individual pressure reducing device is added to the service line, the water system owner shall notify affected customers. Notification may include reasons for the elevated pressure, problems or damage that elevated pressure can inflict on appliances or plumbing systems, and suggested procedures or mitigation efforts affected property owners may initiate to minimize problems or damage. (4-4-13)

vii. The Department may allow the installation of booster pump systems at individual service connections on a case by case basis. However, such an installation may only occur with the full knowledge and

agreement of the public water system, including assurance by the water system that the individual booster pump will cause no adverse effects on system operation. (4-11-06)

viii. For elevated storage tanks, pressure calculations during peak hour demand shall be based on the lowest water level after both operational storage and equalization storage have been exhausted. Pressure calculations during fire flow demands shall be based on the lowest water level after operational storage, equalization storage, and fire suppression storage have been exhausted. (4-4-13)

ix. For hydropneumatic tanks, pressure calculations shall be based on the lowest pressure of the pressure cycle and this requirement shall be noted in the operation and maintenance manual. (4-4-13)

c. Fire Flows. Any public water system designed to provide fire flows shall ensure that such flows are compatible with the water demand of existing and planned fire-fighting equipment and fire fighting practices in the area served by the system. (5-3-03)

d. Irrigation Flows. (12-1-92)

i. Any public water system constructed after November 1, 1977, shall be capable of providing water for uncontrolled, simultaneous foreseeable irrigation demand, which shall include all acreage that the system is designed to irrigate. (5-3-03)

(1) The Department must concur with assumptions regarding the acreage to be irrigated. In general, an assumption that no outside watering will occur is considered unsound and is unlikely to be approved. (5-3-03)

(2) An assumption of minimal outside watering, as in recreational subdivisions, may be acceptable if design flows are adequate for maintenance of "green zones" for protection against wildland fire. (5-3-03)

ii. The requirement of Subsection 552.01.d.i. may be modified by the Department if: (5-3-03)

(1) A separate irrigation system is provided; or (12-10-92)

(2) The supplier of water can regulate the rate of irrigation through its police powers, and the water system is designed to accommodate a regulated rate of irrigation flow. The Department may require the water system to submit a legal opinion addressing the enforceability of such police powers. (5-3-03)

iii. If a separate non-potable irrigation system is provided for the consumers, all mains, hydrants and appurtenances shall be easily identified as non-potable. The Department must concur with a plan to ensure that each new potable water service is not cross-connected with the irrigation system. (5-3-03)

02. Ground Water. (12-10-92)

a. Public water systems constructed after July 1, 1985, and supplied by ground water, shall treat water within the system by disinfection if the ground water source is not protected from contamination. (12-10-92)

b. The Department may, in its discretion, require disinfection for any existing public water system supplied by ground water if the system ~~consistently exceeds the MCL for~~ has repeated coliform present samples or E.coli MCL exceedances, and if the system does not appear adequately protected from contamination. Adequate protection will be determined based upon at least the following factors: ~~(12-10-92)~~

i. Location of possible sources of contamination; (12-10-92)

ii. Size of the well lot; (12-10-92)

iii. Depth of the source of water; (12-10-92)

iv. Bacteriological quality of the aquifer; (12-10-92)

v. Geological characteristics of the area; and (12-10-92)

vi. Adequacy of development of the source. (12-10-92)

03. Operating Criteria. The operating criteria for systems that provide filtration shall be as follows: (4-4-13)

a. A project specific operation and maintenance manual shall be provided as required in Subsection 501.12. See definition of Operation and Maintenance Manual in Section 003 for the typical contents of an operation and maintenance manual and the included operations plan. For the operations plan in the operation and maintenance manual, additional guidance for several types of filtration systems can be found in the Department's SWTR Compliance Guidance referenced in Subsection 002.02. (4-4-13)

b. The system shall conduct monitoring specified by the Department before serving water to the public in order to protect the health of consumers served by the system. (4-4-13)

c. New treatment facilities shall be operated in accordance with Subsection 552.03.b., and the system shall conduct monitoring specified by the Department for a trial period specified by the Department before serving water to the public in order to protect the health of consumers served by the system. (3-30-07)

04. Chlorination. Systems that regularly add chlorine to their water are subject to the provisions of Section 320. Systems using surface water or ground water under the direct influence of surface water, are subject to the disinfection requirements of Sections 300 and 518. (3-30-07)

a. Systems using only ground water that add chlorine for the purpose of disinfection, as defined in Section 003, are subject to the following requirements: (4-6-05)

i. Chlorinator and chlorine contact tank capacity shall be such that the system is able to demonstrate that it is routinely achieving four (4) logs (ninety-nine point ninety-nine percent) (99.99%)) inactivation/removal of viruses. The required effective contact time will be specified by the Department. This condition must be attainable even when the plant design capacity coincides with anticipated maximum chlorine demands. (4-4-13)

ii. A detectable chlorine residual shall be maintained throughout the distribution system. (4-6-05)

iii. Automatic proportioning chlorinators are required where the rate of flow or chlorine demand is not reasonably constant. (4-4-13)

iv. Analysis for free chlorine residual shall be conducted at a location at or prior to the first service connection at least daily and records of these analyses shall be kept by the supplier of water for at least one (1) year. A report of all daily chlorine residual measurements for each calendar month shall be submitted to the Department no later than the tenth day of the following month. The frequency of measuring free chlorine residuals shall be sufficient to detect variations in chlorine demand or changes in water flow. (5-8-09)

v. If gas chlorination equipment is provided, a separate and ventilated room is required. (4-4-13)

vi. The Department may, in its discretion, require a treatment rate higher than that specified in Subsection 552.04.a.i. (3-30-07)

vii. When chlorine gas is used, chlorine leak detection devices and safety equipment shall be provided and equipped with both an audible alarm and a warning light. (5-8-09)

viii. The Department may require redundant chlorine pumping capabilities with automatic switchover for systems with documented source water contamination problems and that lack adequate storage to supply the system during a pump failure. (5-8-09)

b. Systems using only ground water that add chlorine for the purpose of maintaining a disinfectant

residual in the distribution system, when the source(s) is not at risk of microbial contamination, are subject to the following requirements: (4-6-05)

i. Automatic proportioning chlorinators are required where the rate of flow or chlorine demand is not reasonably constant. (4-4-13)

ii. Analysis for free chlorine residual shall be made at a frequency that is sufficient to detect variations in chlorine demand or changes in water flow. (4-6-05)

c. Systems using only ground water that add chlorine for other purposes, such as oxidation of metals or taste and odor control, when the source(s) is known to be free of microbial contamination, must ensure that chlorine residual entering the distribution system after treatment is less than four (4.0) mg/L. The requirements in Subsection 552.04.b.ii. also apply if the system maintains a chlorine residual in the distribution system. (3-30-07)

05. Fluoridation. (12-1-92)

a. Commercial sodium fluoride, sodium silico fluoride and hydrofluosilicic acid which conform to the applicable American Water Works Association (AWWA) Standards, incorporated by reference into these rules at Subsection 002.01, are acceptable. Use of other chemicals shall be specifically approved by the Department. (3-30-07)

b. Fluoride compounds shall be stored in covered or unopened shipping containers. (3-30-07)

c. Provisions shall be made to minimize the quantity of fluoride dust. Empty bags, drums, or barrels shall be disposed of in a manner that will minimize exposure to fluoride dusts. (3-30-07)

d. Daily records of flow and amounts of fluoride added shall be kept. An analysis for fluoride in finished water shall be made at least weekly. Records of these analyses shall be kept by the supplier of water for five (5) years. (12-10-92)

06. Cross Connection Control Program - Community Water Systems. The water purveyor is responsible through its cross connection control program to take reasonable and prudent measures to protect the water system against contamination and pollution from cross connections through premises isolation, internal or in-plant isolation, fixture protection, or some combination of premises isolation, internal isolation, and fixture protection. Pursuant to Section 543, all suppliers of water for community water systems shall implement a cross connection control program to prevent the entrance to the system of materials known to be toxic or hazardous. The water purveyor is responsible to enforce the system's cross connection control program. The program will at a minimum include: (4-7-11)

a. An inspection program to locate cross connections and determine required suitable protection. For new connections, suitable protection must be installed prior to providing water service. (5-8-09)

b. Required installation and operation of adequate backflow prevention assemblies. Appropriate and adequate backflow prevention assembly types for various facilities, fixtures, equipment, and uses of water should be selected from the AWWA Pacific Northwest Section Cross Connection Control Manual, the Uniform Plumbing Code, the AWWA Recommended Practice for Backflow Prevention and Cross Connection Control (M14), the USC Foundation Manual of Cross Connection Control, or other sources deemed acceptable by the Department. The assemblies must meet the requirements of Section 543 and comply with local ordinances. (4-4-13)

c. Annual inspections and testing of all installed backflow prevention assemblies by a tester licensed by a licensing authority recognized by the Department. Testing shall be done in accordance with the test procedures published by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research. See the USC Foundation Manual of Cross-Connection Control referenced in Subsection 002.02. (4-7-11)

d. Discontinuance of service to any structure, facility, or premises where suitable backflow protection has not been provided for a cross connection. (4-7-11)

e. Assemblies that cannot pass annual tests or those found to be defective shall be repaired, replaced, or isolated within ten (10) business days. If the failed assembly cannot be repaired, replaced, or isolated within ten (10) business days, water service to the failed assembly shall be discontinued. (4-4-13)

07. Cross Connection Control - Non-Community Water Systems. All suppliers of water for non-community water systems shall ensure that cross connections do not exist or are isolated from the potable water system by an approved backflow prevention assembly. Backflow prevention assemblies shall be inspected and tested annually for functionality by an Idaho licensed tester, as specified in Subsections 552.06.c. and 552.06.e. (4-4-13)

08. Start-up procedures for seasonal systems subject to Subsections 100.01.a., c., and d.

a. Beginning April 1, 2016, all seasonal system owners and operators must demonstrate completion of a Department approved start-up procedure, including start-up sampling, prior to serving water to the public. The system owner or operator must submit information on a Department provided or approved form that includes a statement certifying that the system owner or operator followed proper start-up procedures. The form shall be submitted to the Department within 30 (thirty) days following the system's start-up date.

[40 CFR 141.854(i) - Federal rule says "which may include start-up sampling" and Idaho rule says "including"]

b. The Department may exempt any seasonal system from Subsection 552.08.a. if the entire distribution system remains pressurized during the entire period that the system is not operating, except that the systems that monitor less frequently than monthly must still monitor during the vulnerable period designated by the Department. The Department may exempt a seasonal system from Subsection 552.08.a. if the owner or operator of the system meets all of the following conditions:

i. Requests an exemption in writing to the Department for approval;

ii. Demonstrates a clean compliance history as defined in Section 003 for a minimum of five (5) years;

iii. Has no uncorrected significant deficiencies from the most recent sanitary survey; and

~~(1)~~ iv. Total coliform samples submitted to a certified laboratory within 30 (thirty) days prior to serving water to the public demonstrate the absence of total coliform.

[Subsection 552.08 moved from Subsection 100.01.e]