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**IDAPA 58
TITLE 01
CHAPTER 08**

58.01.08 - IDAHO RULES FOR PUBLIC DRINKING WATER SYSTEMS

000. LEGAL AUTHORITY.

The Idaho Legislature has given the Idaho Board of Environmental Quality the authority to promulgate rules governing quality and safety of drinking water, pursuant to Title 37, Chapter 21 and Title 39, Chapter 1, Idaho Code. (5-3-03)

001. TITLE AND SCOPE.

01. Title. These rules shall be cited in full as Idaho Department of Environmental Quality Rules, IDAPA 58.01.08, "Idaho Rules for Public Drinking Water Systems". (10-1-93)

02. Scope. The purpose of these rules is to control and regulate the design, construction, operation, maintenance, and quality control of public drinking water systems to provide a degree of assurance that such systems are protected from contamination and maintained free from contaminants which may injure the health of the consumer. (10-1-93)

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 Parts 141 and 143. 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. (4-11-06)

b. Recommended Standards for Water Works: a report of the Water Supply Committee of the Great Lakes -- Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 2003 Edition, except Parts One (1) and Eight (8). (4-11-06)

c. American Water Works Association (AWWA) Standards, Edition effective July 2005, available from the AWWA, 6666 West Quincy Avenue, Denver, Colorado 80235, Telephone (800) 926-7337. (4-11-06)

02. Availability of Specific Referenced Material. Copies of specific documents referenced within these rules are available at the following locations: (4-11-06)

a. All federal regulations: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, Telephone (202)783-3238; U.S. Government Bookstore, Room 194, Federal Bldg., 915 Second Ave., Seattle, WA 98174, (206) 553-4270; or <http://www.gpoaccess.gov/index.html>. (4-11-06)

b. All documents incorporated by reference: Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255, (208) 373-0502. (4-11-06)

c. Recommended Standards for Water Works: a report of the Water Supply Committee of the Great Lakes -- Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, published by Health Education Services, P.O. Box 7126, Albany, New York 12224, 2003, Telephone (518) 439-7286. (4-6-05)

d. Manual of Individual and Non-Public Water Supply Systems (EPA 570/9-91-004), published by the U.S. Environmental Protection Agency, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.20402, Telephone (202) 782-3238. (5-3-03)

e. U.S. Department of Commerce, National Bureau of Standards Handbook, No. 69, "Maximum

Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure” as amended in 1963, NCRP Publications, P.O. Box 20175, Washington, D.C. 20014.

(12-10-92)

f. Rules of the Idaho Water Resources Board, IDAPA 37.03.09, “Well Construction Standards Rules,” July 1993, available at the Idaho Department of Water Resources, Idaho Water Center, 322 E. Front St., P.O. Box 83720, Boise, Idaho 83720-0098, Telephone (208) 287-4800. (4-6-05)

g. ANSI/NSF Standard 44-2002e -- 2004, Residential Cation Exchange Water Softeners, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

h. ANSI/NSF Standard 53-2002e -- 2003, Drinking Water Treatment Units -- Health Effects, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

i. ANSI/NSF Standard 55-2002 -- 2002, Ultraviolet Microbiological Water Treatment Systems, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

j. ANSI/NSF Standard 58-2003 -- 2004, Reverse Osmosis Drinking Water Treatment Systems, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

k. American Water Works Association (AWWA) Standards, available from the AWWA, 6666 West Quincy Avenue, Denver, Colorado 80235, Telephone (800) 926-7337. (4-11-06)

l. ANSI/NSF Standard 60-2000a -- 2000, Drinking Water Treatment Chemicals -- Health Effects, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

m. ANSI/NSF Standard 61-2000a -- 2000, Drinking Water System Components -- Health Effects, available from the National Sanitation Foundation, 789 N. Dixboro Road, Ann Arbor, Michigan 48105, Telephone (734) 769-8010. (4-6-05)

n. “Cross Connection Control Manual,” December 1995 Edition, available from Pacific Northwest Section of the American Water Works Association, P.O. Box 19581, Portland, OR, 97280-0581, Telephone (503) 246-5845. (5-3-03)

o. “Idaho Guidance for Public Drinking Water Systems,” 2005 Edition, and subsequent revisions, Idaho Department of Environmental Quality, 1410 North Hilton, Boise, Idaho 83706, www.deq.idaho.gov. (4-11-06)

p. “Idaho Standards for Public Works Construction,” 2005 Edition, and subsequent revisions, Local Highway Technical Assistance Council, 3330 Grace Street, Boise, ID 83605, (208)344-0565. (4-11-06)

q. Memorandum of Understanding between the Idaho Department of Environmental Quality and the Idaho Division of Building Safety Plumbing Bureau, April 2003, Idaho Department of Environmental Quality, 1410 North Hilton, Boise, Idaho 83706, www.deq.idaho.gov. (4-11-06)

03. Precedence. In the event of conflict or inconsistency between the language in these rules and that found in any document incorporated by reference, these rules shall prevail. (4-11-06)

003. DEFINITIONS.

The definitions set forth in 40 CFR 141.2, revised as of July 1, 2002, are herein incorporated by reference except for the definition of the terms “action level,” “disinfection,” “noncommunity water system,” and “person”. (5-3-03)

01. Action Level. The concentration of lead or copper in water that determines, in some cases, whether

a water system must install corrosion control treatment, monitor source water, replace lead service lines, or undertake a public education program. (12-10-92)

- 02. Administrator.** The Administrator of the United States Environmental Protection Agency. (4-5-00)
- 03. Annual Samples.** Samples that are required once per calendar year. (12-10-92)
- 04. Aquifer.** A geological formation of permeable saturated material, such as rock, sand, gravel, etc., capable of yielding an economic quantity of water to wells and springs. (5-3-03)
- 05. Available.** Based on system size, complexity, and source water quality, a properly licensed operator must be on site or able to be contacted as needed to initiate the appropriate action in a timely manner. (4-6-05)
- 06. Average Daily Demand.** The volume of water used by a system on an average day based on a one (1) year period. (12-10-92)
- 07. Backflow.** The reverse from normal flow direction in a plumbing system or water system caused by back pressure or back siphonage. (12-10-92)
- 08. Board.** The Idaho Board of Environmental Quality. (5-3-03)
- 09. Capacity.** The capabilities required of a public drinking water system in order to achieve and maintain compliance with these rules and the requirements of the federal Safe Drinking Water Act. It is divided into three (3) main elements: (4-5-00)

 - a.** Technical capacity means the system has the physical infrastructure to consistently meet drinking water quality standards and treatment requirements and is able to meet the requirements of routine and emergency operations. It further means the ability of system personnel to adequately operate and maintain the system and to otherwise implement technical knowledge. Training of operator(s) is required, as appropriate, for the system size and complexity. (4-6-05)
 - b.** Financial capacity means the financial resources of the water system, including an appropriate budget, rate structure, cash reserves sufficient for future needs and emergency situations, and adequate fiscal controls. (4-5-00)
 - c.** Managerial capacity means that the management structure of the water system embodies the aspects of water treatment operations, including, but not limited to; (4-5-00)

 - i. Short and long range planning; (4-5-00)
 - ii. Personnel management; (4-5-00)
 - iii. Fiduciary responsibility; (4-5-00)
 - iv. Emergency response; (4-5-00)
 - v. Customer responsiveness; (4-5-00)
 - vi. Source water protection; (4-5-00)
 - vii. Administrative functions such as billing and consumer awareness; and (4-5-00)
 - viii. Ability to meet the intent of the federal Safe Drinking Water Act. (4-5-00)
- 10. Community Water System.** A public water system which serves at least fifteen (15) service connections used by year-round residents or regularly serves at least twenty-five (25) year-round residents.

(12-10-92)

11. Composite Correction Program (CCP). A systematic approach to identifying opportunities for improving the performance of water treatment and implementing changes that will capitalize on these opportunities. The CCP consists of two (2) elements: (4-5-00)

a. Comprehensive Performance Evaluation (CPE). 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. The CPE must 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. (4-5-00)

b. Comprehensive Technical Assistance (CTA). The implementation phase that is carried out if the CPE results indicate improved performance potential. During the CTA phase, the system must identify and systematically address plant-specific factors. The CTA consists of follow-up to the CPE results, implementation of process control priority setting techniques, and maintaining long term involvement to systematically train staff and administrators. (4-5-00)

12. Compositing of Samples. The mixing of up to five (5) samples by the laboratory. (4-5-00)

13. Confining Layer. A nearly impermeable subsurface stratum which is located adjacent to one (1) or more aquifers and does not yield a significant quantity of water to a well. (5-3-03)

14. Confirmation Sample. A sample of water taken from the same point in the system as the original sample and at a time as soon as possible after the original sample was taken. (12-10-92)

15. Connection. Each structure, facility, or single family residence which is connected to a water system, and which is or could be used for domestic purposes, is considered a single connection. Multi-family dwellings and apartment, condominium, and office complexes are considered single connections unless individual units are billed separately for water by the water system, in which case each such unit shall be considered a single connection. (10-1-93)

16. Consumer. Any person served by a public water system. (12-10-92)

17. Consumer Confidence Report (CCR). An annual report that community water systems must deliver to their customers. The reports must contain information on the quality of the water delivered by the systems and characterize the risks (if any) from exposure to contaminants detected in the drinking water in an accurate and understandable manner. (4-5-00)

18. Contaminant. Any physical, chemical, biological, or radiological substance or matter in water. (12-10-92)

19. Cross Connection. Any actual or potential connection or piping arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable water system used water, water from any source other than an approved public water system, industrial fluid, gas or substance other than the intended potable water with which the system is supplied. Cross connections include bypass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices which, or because of which "backflow" can or may occur. (10-1-93)

20. Department. The Idaho Department of Environmental Quality. (12-10-92)

21. Director. The Director of the Department of Environmental Quality or his designee. (12-10-92)

22. Disinfection. Introduction of chlorine or other agent or process approved by the Department, in sufficient concentration and for the time required to kill or inactivate pathogenic and indicator organisms. (5-3-03)

- 23. Disinfection Profile.** A summary of daily *Giardia lamblia* inactivation through the drinking water treatment plant. The procedure for developing a disinfection profile is contained in 40 CFR 141.172 and 40 CFR 141.530-141.536. (5-3-03)
- 24. Distribution System.** Any combination of pipes, tanks, pumps, and other equipment which delivers water from the source(s) and/or treatment facility(ies) to the consumer. Chlorination may be considered as a function of a distribution system. (3-16-04)
- 25. Drinking Water System.** All mains, pipes, and structures through which water is obtained and distributed, including wells and well structures, intakes and cribs, pumping stations, treatment plants, reservoirs, storage tanks and appurtenances, collectively or severally, actually used or intended for use for the purpose of furnishing water for drinking or general domestic use. (12-10-92)
- 26. DWIMS.** Idaho Department of Environmental Quality Drinking Water Information Management System. Replaced by SDWISS April 2001. (3-15-02)
- 27. Enhanced Coagulation.** The addition of sufficient coagulant for improved removal of disinfection byproduct precursors by conventional filtration treatment. Conventional filtration treatment is defined in 40 CFR 141.2. (5-3-03)
- 28. Enhanced Softening.** The improved removal of disinfection byproduct precursors by precipitative softening. (4-5-00)
- 29. Equalization Storage.** Storage of finished water in sufficient quantity to compensate for the difference between a water system's maximum pumping capacity and peak daily usage. (4-6-05)
- 30. Exemption.** A temporary deferment of compliance with a maximum contaminant level or treatment technique requirement which may be granted only if the system demonstrates to the satisfaction of the Department that the system cannot comply due to compelling factors and the deferment does not cause an unreasonable risk to public health. (12-10-92)
- 31. Facility Standards and Design Standards.** Facility standards and design standards are described in Sections 549 through 552 of these rules. Facility and design standards found in Sections 549 through 552 of these rules must be followed in the planning, design, construction, and review of public drinking water facilities. (4-11-06)
- 32. Fee Assessment.** A charge assessed on public drinking water systems based on a rate structure calculated by system size. (10-1-93)
- 33. Filter Profile.** 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. (4-5-00)
- 34. GAC10.** Granular activated carbon filter beds with an empty bed contact time of ten (10) minutes based on average daily flow and a carbon reactivation frequency of every one hundred eighty (180) days. (4-5-00)
- 35. Groundwater System.** A public water system which is supplied exclusively by a groundwater source or sources. (12-10-92)
- 36. Groundwater Under the Direct Influence of Surface Water.** Any water beneath the surface of the ground with significant occurrence of insects or other macroorganisms, algae, or large diameter pathogens such as *Giardia lamblia* or *Cryptosporidium*, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence must be determined for individual sources in accordance with criteria established by the State. The State determination of direct influence may be based on site-specific measurements of water quality and/or documentation of well construction characteristics and geology with field evaluation. (5-3-03)

- 37. Haloacetic Acids (Five) (HAA5).** 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 (2) significant figures after addition. (4-5-00)
- 38. Health Hazards.** Any condition which creates, or may create, a danger to the consumer's health. Health hazards may consist of, but are not limited to, design, construction, operational, structural, collection, storage, distribution, monitoring, treatment or water quality elements of a public water system. See also the definition of Significant Deficiency, which refers to a health hazard identified during a sanitary survey. (5-3-03)
- 39. Inorganic.** Generally refers to compounds that do not contain carbon and hydrogen. (12-10-92)
- 40. 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)
- 41. License.** A physical document issued by the Idaho Bureau of Occupational Licenses certifying that an individual has met the appropriate qualifications and has been granted the authority to practice in Idaho under the provisions of Chapter 24, Title 54, Idaho Code. (4-6-05)
- 42. Log.** Logarithm to the base ten (10). (12-10-92)
- 43. Material Deviation.** A change from the design plans that significantly alters the type or location of facilities, requires engineering judgment to design, or impacts the public safety or welfare. (4-11-06)
- 44. Material Modification.** For the purpose of plan and specification review requirements as specified in Subsection 551.04, those modifications of an existing public water system that are intended to increase system capacity or alter the methods or processes employed. (4-11-06)
- 45. Maximum Contaminant Level (MCL).** The maximum permissible level of a contaminant in water which is delivered to any user of a public water system. (11-17-05)T
- 46. Maximum Daily Consumption Rate.** The average rate of consumption for the twenty-four (24) hour period in which total consumption is the largest on record. (12-10-92)
- 47. Maximum Hourly Demand.** The greatest volume of water used in any hour during a one (1) year period. (12-10-92)
- 48. Maximum Residual Disinfectant Level (MRDL).** 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. For chlorine and chloramines, a public water system is in compliance with the MRDL, when the running annual average of monthly averages of samples taken in the distribution system, computed quarterly, is less than or equal to the MRDL. For chlorine dioxide, a public water system is in compliance with the MRDL when daily samples are taken at the entrance to the distribution system and no two (2) consecutive daily samples exceed the MRDL. MRDLs are enforceable in the same manner as maximum contaminant levels under Section 1412 of the Safe Drinking Water Act. There is convincing evidence that addition of a disinfectant is necessary for control of waterborne microbial contaminants. Notwithstanding the MRDLs listed in 40 CFR 141.65, operators may increase residual disinfectant levels of chlorine or chloramines (but not chlorine dioxide) in the distribution system to a level and for a time necessary to protect public health to address specific microbiological contamination problems caused circumstances such as distribution line breaks, storm runoff events, source water contamination, or cross-connections. (4-5-00)
- 49. Maximum Residual Disinfectant Level Goal (MRDLG).** 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 contaminants. (4-5-00)

- 50. Method Detection Limit (MDL).** The lowest concentration which can be determined to be greater than zero with ninety-nine percent (99%) confidence, for a particular analytical method. (12-10-92)
- 51. New System.** Any water system that meets, for the first time, the definition of a public water system provided in Section 1401 of the federal Safe Drinking Water Act (42 U.S.C. Section 300f). This includes systems that are entirely new construction and previously unregulated systems that are expanding. (4-5-00)
- 52. Noncommunity Water System.** A public water system that is not a community water system. A non-community water system is either a transient noncommunity water system or a non-transient noncommunity water system. (4-5-00)
- 53. Non-Potable Mains.** The pipelines that collect and convey non-potable discharges from or to multiple service connections. (4-11-06)
- 54. Non-Potable Services.** The pipelines that convey non-potable discharges from individual facilities to a connection with the non-potable main. This term also refers to pipelines that convey non-potable water from a pressurized irrigation system, reclaimed wastewater system, and other non-potable systems to individual consumers. (4-11-06)
- 55. Nontransient Noncommunity Water System.** A public water system that is not a community water system and that regularly serves at least twenty-five (25) of the same persons over six (6) months per year. (12-10-92)
- 56. Nuclear Facility.** Factories, processing plants or other installations in which fissionable material is processed, nuclear reactors are operated, or spent (used) fuel material is processed, or stored. (12-10-92)
- 57. Operating Shift.** That period of time during which water system operator decisions that affect public health are necessary for proper operation of the system. (4-5-00)
- 58. Owner/Purveyor of Water/Supplier of Water.** The person, company, corporation, association, or other organizational entity which holds legal title to the public water system, who provides, or intends to provide, drinking water to the customers and/or is ultimately responsible for the public water system operation. (4-6-05)
- 59. Peak Hourly Flow.** The highest hourly flow during any day. (12-10-92)
- 60. Person.** A human being, municipality, or other governmental or political subdivision or other public agency, or public or private corporation, any partnership, firm, association, or other organization, any receiver, trustee, assignee, agent or other legal representative of the foregoing or other legal entity. (12-10-92)
- 61. Pesticides.** Substances which meet the criteria for regulation pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, and any regulations adopted pursuant to FIFRA. For example, pesticides include, but are not limited to insecticides, fungicides, rodenticides, herbicides, and algacides. (12-10-92)
- 62. Point of Use (POU) Treatment Device.** A treatment device applied to a single tap used for the purpose of reducing contaminants in drinking water at that one tap. (11-17-05)T
- 63. Point of Use (POU) Treatment System.** A collection of POU treatment devices. (11-17-05)T
- 64. Potable Water Mains.** Pipelines that deliver potable water to multiple service connections. (4-11-06)
- 65. Potable Water Services.** Pipelines that convey potable water from a connection to the potable water main to individual consumers. (4-11-06)
- 66. Public Notice.** The notification of public water system consumers of information pertaining to that water system including information regarding water quality or compliance status of the water system. (12-10-92)

67. Public Drinking Water System. A system for the provision to the public of water for human consumption through pipes or, after August 5, 1998, other constructed conveyances, if such system has at least fifteen (15) service connections, regardless of the number of water sources or configuration of the distribution system, or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year. Such term includes: any collection, treatment, storage, and distribution facilities under the control of the operator of such system and used primarily in connection with such system; and 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 either a "community water system" or a "noncommunity water system". (4-6-05)

68. Public Water System/Water System/System. Means "public drinking water system". (4-5-00)

69. Quasi-Municipal Corporation. A public entity, other than community government, created or authorized by the legislature to aid the state in, or to take charge of, some public or state work for the general welfare. For the purpose of these rules, this term refers to drinking water districts. (4-11-06)

70. Repeat Compliance Period. Any subsequent compliance period after the initial compliance period. (12-10-92)

71. Responsible Charge (RC). Responsible Charge means, active, daily on-site and/or on-call responsibility for the performance of operations or active, on-going, on-site and on-call direction of employees and assistants. (4-5-00)

72. Responsible Charge Operator. An operator of a public drinking water system, designated by the system owner, who holds a valid license at a class equal to or greater than the drinking water system classification, who is in responsible charge of the public drinking water system. (4-6-05)

73. Reviewing Authority. For those projects requiring preconstruction approval by the Department, the Department is the reviewing authority. For those projects allowing for preconstruction approval by others, pursuant to Subsection 551.04.a. of these rules, the qualified licensed professional engineer is also the reviewing authority. (4-11-06)

74. Sampling Point. The location in a public water system from which a sample is drawn. (12-10-92)

75. Sanitary Defects. Any faulty structural condition which may allow the water supply to become contaminated. (12-10-92)

76. 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)

77. SDWIS-State. An acronym that stands for “Safe Drinking Water Information System-State Version”. It is a software package developed under contract to the U.S. Environmental Protection Agency and used by a majority of U.S. states to collect, maintain, and report data about regulated public water systems. See also the definition of DWIMS. (5-3-03)

78. Significant Deficiency. As identified during a sanitary survey, any defect in a system’s design, operation, maintenance, or administration, as well as any failure or malfunction of any system component, that the Department or its agent determines to cause, or have potential to cause, risk to health or safety, or that could affect the reliable delivery of safe drinking water. See also the definition of Health Hazards. (5-3-03)

79. Special Irrigation District. An irrigation district in existence prior to May 18, 1994 that provides primarily agricultural service through a piped water system with only incidental residential or similar use where the system or the residential or similar users of the system comply with the exclusion provisions in Section 1401(4)(B)(i)(II) or (III) of the Safe Drinking Water Act. (4-6-05)

80. Spring. A source of water which flows from a laterally percolating water table's intersection with the surface or from a geological fault that allows the flow of water from an artesian aquifer. (12-10-92)

81. Substitute Responsible Charge Operator. An operator of a public drinking water system who holds a valid license at a class equal to or greater than the drinking water system classification, designated by the system owner to replace and to perform the duties of the responsible charge operator when the responsible charge operator is not available or accessible. (4-6-05)

82. Surface Water System. A public water system which is supplied by one (1) or more surface water sources or groundwater sources under the direct influence of surface water. Also called subpart H systems in applicable sections of 40 CFR Part 141. (4-5-00)

83. Specific Ultraviolet Absorption (SUVA). SUVA means Specific Ultraviolet Absorption at two hundred fifty-four (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 wave length of two hundred fifty-four (254) nm (UV254) (in m=1) by its concentration of dissolved organic carbon (DOC) (in mg/l). (4-5-00)

84. Total Organic Carbon (TOC). 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 (2) significant figures. (4-5-00)

85. Transient Noncommunity Water System. A noncommunity water system which does not regularly serve at least twenty-five (25) of the same persons over six (6) months per year. (10-1-93)

86. Treatment Facility. Any place(s) where a public drinking water system or nontransient noncommunity water system alters the physical or chemical characteristics of the drinking water. Chlorination may be considered as a function of a distribution system. (4-5-00)

87. Turbidity. A measure of the interference of light passage through water, or visual depth restriction due to the presence of suspended matter such as clay, silt, nonliving organic particulates, plankton and other microscopic organisms. Operationally, turbidity measurements are expressions of certain light scattering and absorbing properties of a water sample. Turbidity is measured by the Nephelometric method. (12-10-92)

88. Uncovered Finished Water Storage Facility. An uncovered tank, reservoir, or other facility that is used to store water that will undergo no further treatment except residual disinfection. (5-3-03)

89. Unregulated Contaminant. Any substance that may affect the quality of water but for which a maximum contaminant level or treatment technique has not been established. (12-10-92)

90. Variance. A temporary deferment of compliance with a maximum contaminant level or treatment technique requirement which may be granted only when the system demonstrates to the satisfaction of the

Department that the raw water characteristics prevent compliance with the MCL or requirement after installation of the best available technology or treatment technique and the deterrent does not cause an unreasonable risk to public health. (12-10-92)

91. Very Small Public Drinking Water System. A Community or Nontransient Noncommunity Public Water System that serves five hundred (500) persons or less and has no treatment other than disinfection or has only treatment which does not require any chemical treatment, process adjustment, backwashing or media regeneration by an operator (e.g. calcium carbonate filters, granular activated carbon filters, cartridge filters, ion exchangers). (4-5-00)

92. Volatile Organic Chemicals (VOCs). VOCs are lightweight organic compounds that vaporize or evaporate easily. (10-1-93)

93. Vulnerability Assessment. A determination of the risk of future contamination of a public drinking water supply. (12-10-92)

94. Waiver. (12-10-92)

a. For the purposes of these rules, except Sections 550 through 552, “waiver” means the Department approval of a temporary reduction in sampling requirements for a particular contaminant. (10-1-93)

b. For purposes of Sections 550 through 552, “waiver” means a dismissal of any requirement of compliance. (12-10-92)

c. For the purposes of Section 010, “waiver” means the deferral of a fee assessment for a public drinking water system. (10-1-93)

95. Water for Human Consumption. Water that is used by humans for drinking, bathing for purposes of personal hygiene (including hand-washing), showering, cooking, dishwashing, and maintaining oral hygiene. In common usage, the terms “culinary water”, “drinking water,” and “potable water” are frequently used as synonyms. (5-3-03)

96. Water Main. A pipe within a public water system which is under the control of the system operator and conveys water to two (2) or more service connections. The collection of water mains within a given water supply is called the distribution system. (5-3-03)

97. Water Main Extension. As used in Subsection 551.04, an extension of the distribution system of an existing public water system that does not require a booster pumping station and is intended to increase the service area of the water system. (4-11-06)

98. Well House. A structure containing important water system components, such as a well, hydropneumatic tank, booster pump, pump controls, flow meter, distribution line, or a treatment unit. Well houses are often called pump houses in common usage, even though in modern construction these structures may not contain either a well or a pump. These terms are used interchangeably in national standards and trade publications. (4-6-05)

004. COVERAGE.
40 CFR 141.3 is herein incorporated by reference. (10-1-93)

005. GENERAL PROVISIONS FOR WAIVERS, VARIANCES, AND EXEMPTIONS.
40 CFR 141.4, revised as of July 1, 2004, is herein incorporated by reference. (4-6-05)

01. Waivers. (12-10-92)

a. The Department may waive any requirement of Sections 550 through 552 that is not explicitly imposed by Idaho Statute, if it can be shown to the satisfaction of the Department that the requirement is not necessary for the protection of public health, protection from contamination, and satisfactory operation and maintenance of a public water system. (5-3-03)

- b.** The Department may at its discretion waive the requirements outlined in Section 010. (10-1-93)
- c.** Waiver of monitoring requirements is addressed in Subsection 100.07. (5-3-03)
- 02. Variances.** (5-3-03)

 - a.** General Variances. A variance may be granted by the Department if a public water system submits an application and demonstrates to the satisfaction of the Department that the following minimum requirements as required by 42 USC Section 1415(a) (The Safe Drinking Water Act) are met. These include but are not limited to: (5-3-03)

 - i.** The system has installed the best available technology, treatment techniques, or other means to comply with the maximum contaminant level; and (5-3-03)
 - ii.** Alternative sources of water are not reasonably available to the system. (5-3-03)
 - iii.** For provisions of a national primary drinking water regulation which requires the use of a specific treatment technique with respect to a contaminant, the system must demonstrate that the technique is not necessary to protect the health of the system's customers. (5-3-03)
 - b.** Small System Variances. A small system variance for a maximum contaminant level or treatment technique may be granted by the Department if a public water system submits an application and demonstrates to the satisfaction of the Department that the following minimum requirements as required by 42 USC Section 1415(e) are met. These include, but are not limited to: (5-3-03)

 - i.** The system serves three thousand three hundred (3,300) or fewer persons; (5-3-03)
 - ii.** If the system serves more than three thousand three hundred (3,300) persons but fewer than ten thousand (10,000) persons, the application shall be approved by the U.S. Environmental Protection Agency; (5-3-03)
 - iii.** The U.S. Environmental Protection Agency has identified a variance technology that is applicable to the size and source water quality conditions of the public water system; (5-3-03)
 - iv.** The system installs, operates and maintains such treatment technology, treatment technique, or other means; and (5-3-03)
 - v.** The system cannot afford to comply with a national primary drinking water regulation in accordance with affordability criteria established by the state, including compliance through treatment, alternative source of water supply, restructuring or consolidation. (5-3-03)
- 03. Exemptions.** An exemption may be granted by the Department if a public water system submits an application and demonstrates to the satisfaction of the Department that the following minimum requirements as required by 42 USC Section 1416(a) are met. These include but are not limited to: (5-3-03)

 - a.** The system is unable to comply with a maximum contaminant level or treatment technique due to compelling factors, which may include economic factors; (5-3-03)
 - b.** The system was in operation by the effective date of such contaminant level or treatment technique and no reasonable source of water is available to the system; or (5-3-03)
 - c.** If the system was not in operation by the effective date of such contaminant level or treatment technique, then no reasonable alternative source of water is available to the system; and (5-3-03)
 - d.** The granting of an exemption will not result in an unreasonable risk to health; (5-3-03)
 - e.** Management or restructuring changes cannot reasonably be made to comply with the contaminant

level or treatment technique to improve the quality of the drinking water; (5-3-03)

f. The system cannot meet the standard without capital improvements which cannot be completed prior to the date established pursuant to 42 USC Section 1412b(10); (5-3-03)

g. If the system needs financial assistance, the system has entered into an agreement to obtain such financial assistance; or (5-3-03)

h. The system has entered into an enforceable agreement to become a part of a regional public water system and is taking all practical steps to meet the standard. (5-3-03)

04. Conditions. A waiver, exemption or variance may be granted upon any conditions that the Department, in its discretion, determines are appropriate. Failure by the public water system to comply with any condition voids the waiver, variance or exemption. (12-10-92)

05. Public Hearing. The Department shall provide public notice and an opportunity for public hearing in the area served by the public water system before any exemption or variance under Section 005 is granted by the Department. At the conclusion of the hearing, the Department shall record the findings and issue a decision approving, denying, modifying, or conditioning the application. (5-3-03)

06. Exceptions. Any person aggrieved by the Department's decision on a request for a waiver, variance or exemption may file a petition for a contested case with the Board. Such petitions shall be filed with the Board, as prescribed in, IDAPA 58.01.23, "Rules of Administrative Procedure Before the Board of Environmental Quality". (3-15-02)

07. Surface Water Variances. Variances from the requirements of Sections 300 through 303 are not allowed. (4-5-00)

08. Surface Water Exemptions. Exemptions from 40 CFR 141.72(a)(3) and 40 CFR 141.72(b)(2), incorporated by reference herein, are not allowed. (10-1-93)

006. SITING REQUIREMENTS. 40 CFR 141.5 is herein incorporated by reference. (10-1-93)

007. DISAPPROVAL DESIGNATION. The Department or its agent may assign a disapproved designation to a public water system when: (5-3-03)

01. Defects. There are design and/or construction defects; or (12-10-92)

02. Operating Procedures. Operating procedures constitute a health hazard; or (12-10-92)

03. Quality. Physical, chemical, microbiological or radiological quality does not meet the requirements of these rules; or (10-1-93)

04. Monitoring. The required monitoring as specified in these rules has not been conducted; or (10-1-93)

05. Unapproved Source. An unapproved source of drinking water is used or the system is interconnected with a disapproved water system. (12-10-92)

06. Non-Payment of Annual Fee Assessment. The annual drinking water system fee assessment is not paid as set forth in Section 010. (7-1-97)

07. Public Notification. The Department may require the owner of a water system that has been given a disapproval designation to notify the public. The manner, content, and timing of this notification will be determined by the Department. This requirement is in addition to any public notification requirements set forth in Section 150 that may also apply to the disapproved system. (5-3-03)

008. HEALTH HAZARDS.

01. Prohibited. (10-1-93)

a. No public water system, or portion of a public water system, shall constitute a health hazard, as determined by the Department and defined in Section 003 of these rules. (5-3-03)

b. No public water system, or portion of a public water system, shall create a condition which prevents, or may prevent, the detection of a health hazard, as determined by the Department. (5-3-03)

02. Schedule. Health hazards and conditions which prevent, or may prevent, the detection of a health hazard must be mitigated as required by the Department and terminated within a time schedule established by the Department. (5-3-03)

03. Standards. Design and construction revisions necessary to correct a health hazard or conditions which prevent, or may prevent, the detection of a health hazard, must be reviewed and approved by the Department, and comply with Sections 550 and 551, unless otherwise specified by the Department. (10-1-93)

009. MONITORING.

The Department may, in its discretion, alter the monitoring or sampling requirements for any contaminant otherwise specified in these rules if the Department determines that such alteration is necessary to adequately assess the level of such contamination. (10-1-93)

010. FEE SCHEDULE FOR PUBLIC DRINKING WATER SYSTEMS.

All regulated public drinking water systems shall pay an annual drinking water system fee. The fee shall be assessed to regulated public drinking water systems as provided in this section. (10-1-93)

01. Effective Date. Annual fees shall be paid for each fee year beginning October 1, 1993, and continuing for each succeeding year. (10-1-93)

02. Fee Schedule. (10-1-93)

a. Community and Nontransient noncommunity public drinking water systems shall pay an annual fee according to the following fee schedule:

Number of Connections	Fee
1 to 20	\$100
21 to 184	\$5 per connection, not to exceed a total of \$735 per system
185 to 3,663	\$4 per connection, not to exceed a total of \$10,988 per system
3,664 or more	\$3 per connection

(7-1-97)

b. The annual fee for transient public drinking water systems is twenty-five dollars (\$25). (10-1-93)

c. New public drinking water systems formed after October 1 will not pay a fee until the following October. (10-1-93)

03. Fee Assessment. (10-1-93)

a. An annual fee assessment will be generated for each community and nontransient noncommunity public drinking water system listed in the Department's Safe Drinking Water Information System (SDWISS). (3-15-02)

b. Community and nontransient noncommunity public drinking water systems will be notified each year of the official number of connections listed in SDWISS. Systems will have at least one (1) month to notify the Department if the number of connections listed in SDWISS is not in agreement with the system's records. (3-15-02)

c. The official number of connections listed in SDWISS following each yearly update, as required in Subsection 010.03.b., will be used to calculate the annual fee for community and nontransient noncommunity public drinking water systems for the next fee year of October 1 through September 30. (3-15-02)

04. Billing. An annual fee shall be assessed and a statement will be mailed to all community, nontransient noncommunity, and transient public drinking water systems listed in SDWISS by the Department on or before September 1 of each year. (3-15-02)

05. Payment. (10-1-93)

a. Payment of the annual fee shall be due on October 1, unless it is a Saturday, a Sunday, or a legal holiday, in which event the payment shall be due on the successive business day. Fees paid by check or money order shall be made payable to the Idaho Department of Environmental Quality and sent to 1410 North Hilton Street, Boise, ID 83706-1255. (10-1-93)

b. If a public water system consists of two hundred fifty (250) connections or more, the system may request to divide its annual fee payment into equal monthly or quarterly installments by submitting a request to the Department on the proper request form provided with the initial billing statement. (10-1-93)

c. The Department will notify applicable systems, in writing, of approval or denial of a requested monthly or quarterly installment plan within ten (10) business days of the Department receiving such a request. (10-1-93)

d. If a public water system has been approved to pay monthly installments then each installment shall be due by the first day of each month, unless it is a Saturday, a Sunday, or a legal holiday, in which event the installment shall be due on the successive business day. (10-1-93)

e. If a public water system has been approved to pay quarterly installments then each installment shall be due by the first day of the month of each quarter (October 1, January 1, April 1, and July 1), unless it is a Saturday, a Sunday, or a legal holiday, in which event the installment shall be due on the first successive business day. (10-1-93)

06. Delinquent Unpaid Fees. A public water system will be delinquent in payment if its annual fee assessment has not been received by the Department by November 1; or if having first opted to pay monthly or quarterly installments, its monthly or quarterly installment has not been received by the Department by the last day of the month in which the monthly or quarterly payment is due. (10-1-93)

07. Suspension of Services and Disapproval Designation. (7-1-97)

a. For any system delinquent in payment of fee assessed under Subsections 010.02 and 010.06, in excess of ninety (90) days, technical services provided by the Department may be suspended except for the following: (7-1-97)

i. Issuance of monitoring waivers; (7-1-97)

ii. Review and processing of engineering reports; and (7-1-97)

iii. Review of plans and specifications for design and construction as set forth in Sections 550 and 551. (7-1-97)

b. For any system delinquent in payment of fee assessed under Subsections 010.02 and 010.06, in excess of one hundred and eighty (180) days, the Department may suspend all technical services provided by the

Department including any of the following: (7-1-97)

- i. Review and processing of engineering reports; (7-1-97)
- ii. Review of plans and specifications for design and construction as set forth in Sections 550 and 551; (7-1-97)
- iii. Renewal of monitoring waivers; or (7-1-97)
- iv. Granting of new monitoring waivers. (7-1-97)

c. For any system delinquent in payment of fee assessed under Subsections 010.02 and 010.06, in excess of one hundred and eighty (180) days, the Department may disapprove the public water system pursuant to Subsection 007.06. (7-1-97)

08. Reinstatement of Suspended Services and Approval Status. The suspension of technical services and/or the disapproval of a public water system pursuant to Subsection 010.07 may be reinstated upon payment of delinquent annual fee assessments. (7-1-97)

09. Enforcement Action. Nothing in Section 010 waives the Department's right to undertake an enforcement action at any time, including seeking penalties, as provided in Section 39-108, Idaho Code. (7-1-97)

10. Responsibility to Comply. Subsection 010.07 shall in no way relieve any system from its obligation to comply with all applicable state and federal drinking water statutes, rules, regulations, or orders. (7-1-97)

011. CONTINUITY OF SERVICE.

01. Transfer of Ownership. No owner shall transfer system ownership without providing written notice to the Department and all customers. Notification shall include a schedule for transferring responsibilities and identification of the new owner. (5-3-03)

02. Maintenance of Standards. The system transferring ownership shall ensure that all health related standards are met during transfer and shall ensure that water rights, operation and maintenance manuals, and all other pertinent documentation is transferred to the new owner. (5-3-03)

012. WRITTEN INTERPRETATIONS.

The Department of Environmental Quality may have written statements in the form of guidance and policy documents that pertain to the interpretation of the rules of this chapter. Such written statements may be inspected and copies obtained at the Department of Environmental Quality, 1410 North Hilton, Boise, Idaho 83706-1255. (5-3-03)

013. USE OF GUIDANCE.

Guidance documents referenced in these rules are to be used to assist both designers and reviewers in determining a reasonable way to achieve compliance with the rules. Nothing in these rules makes the use of a particular guidance or guidance document mandatory. If the plans and specifications comply with applicable facility standards and design standards as set out in these rules, Section 39-118, Idaho Code, requires that the reviewing authority not substitute his or her judgment for that of the design engineer concerning the manner of compliance. If the design engineer needs assistance as to how to comply with a particular rule, the design engineer may use the referenced guidance documents for that assistance. However, the design engineer may also use other guidance or provide documentation to substantiate his or her own professional judgment. (4-11-06)

014. ADMINISTRATIVE PROVISIONS.

Persons may be entitled to appeal agency actions authorized under these rules pursuant to IDAPA 58.01.23, "Rules of Administrative Procedure Before the Board of Environmental Quality." (3-15-02)

015. CONFIDENTIALITY OF RECORDS.

Information obtained by the Department under these rules is subject to public disclosure pursuant to the provisions of

Chapter 3, Title 9, Idaho Code. Information submitted under a trade secret claim may be entitled to confidential treatment by the Department as provided in Section 9-342A, Idaho Code, and IDAPA 58.01.21, "Rules Governing the Protection and Disclosure of Records in the Possession of the Department of Environmental Quality". (3-15-02)

016. OFFICE HOURS -- MAILING ADDRESS AND STREET ADDRESS.

The state office of the Department of Environmental Quality and the office of the Board of Environmental Quality are located at 1410 N. Hilton, Boise, Idaho 83706-1255, telephone number (208) 373-0502. The office hours are 8 a.m. to 5 p.m. Monday through Friday. (4-11-06)

017. -- 049. (RESERVED).

050. MAXIMUM CONTAMINANT LEVELS AND MAXIMUM RESIDUAL DISINFECTANT LEVELS.

- 01. Inorganic Contaminants.** (10-1-93)
 - a.** 40 CFR 141.11, revised as of July 1, 2001, is herein incorporated by reference. (3-15-02)
 - b.** 40 CFR 141.62, revised as of July 1, 2004, is herein incorporated by reference. (4-6-05)
 - c.** The maximum contaminant level for cyanide is two-tenths milligram per liter (0.2 mg/l). (12-10-92)
- 02. Organic Contaminants.** (10-1-93)
 - a.** 40 CFR 141.12, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)
 - b.** 40 CFR 141.61 is herein incorporated by reference. except that the best available technology (BAT) treatment listed in 40 CFR 141.61(b) shall be changed to reflect that packed tower aeration will not be listed for toxaphene but will be listed for toluene. (10-1-93)
- 03. Turbidity.** 40 CFR 141.13 is herein incorporated by reference. (10-1-93)
- 04. Radionuclides.** 40 CFR 141.66, revised as of July 1, 2001, is herein incorporated by reference. (3-15-02)
- 05. Microbiological Contaminants.** 40 CFR 141.63, revised as of July 1, 2001, is herein incorporated by reference. (3-15-02)
- 06. Maximum Contaminant Levels for Disinfection Byproducts.** 40 CFR 141.64, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)
- 07. Maximum Residual Disinfectant Levels.** 40 CFR 141.65, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)
- 08. Effective Dates.** 40 CFR Part 141, revised as of July 1, 2004, is herein incorporated by reference. Effective date information provided in 40 CFR 141.6 and 40 CFR 141.60 is applicable. (4-6-05)

051. -- 099. (RESERVED).

100. MONITORING AND ANALYTICAL REQUIREMENTS.

- 01. Microbiological Contaminant Sampling and Analytical Requirements.** (10-1-93)
 - a.** 40 CFR 141.21, revised as of July 1, 2001, is herein incorporated by reference. (3-15-02)
 - 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 it's 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 groundwater 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. 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 groundwater 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 effect microbial quality; and (12-10-92)
- v. The system uses only a groundwater 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 141.32, revised as of July 1, 2001, for acute MCL violations including notice for consumers to boil their water; (3-15-02)
 - 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, revised as of July 1, 2001, is herein incorporated by reference. (3-15-02)
- 03. Inorganic Chemical Sampling and Analytical Requirements.** 40 CFR 141.23, revised as of July 1, 2004, is herein incorporated by reference. (4-6-05)
- 04. Organic Chemicals Other Than Total Trihalometranes, Sampling and Analytical Requirements.** 40 CFR 141.24, revised as of July 1, 2004, is herein incorporated by reference. (4-6-05)
- 05. Analytical Methods for Radioactivity.** 40 CFR 141.25, revised as of July 1, 2001, is herein incorporated by reference. (3-15-02)
- 06. Monitoring Frequency and Compliance Requirements for Radioactivity in Community Water Systems.** 40CFR 141.26, revised as of July 1, 2001, is herein incorporated by reference. (3-15-02)
- 07. Waivers and Vulnerability Assessments.** (10-1-93)
- a. Waivers from sampling requirements in Subsections 100.03, 100.04, 200.01, 551.01.h. and 551.01.i. may be available to all systems for all contaminants except nitrate, nitrite, arsenic and trihalomethanes, and are based upon a vulnerability assessment, use assessment and/or the analytical results of previous sampling. (10-1-93)
 - 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, revised as of July 1, 2004, 40 CFR 141.24, revised as of July 1, 2004, and 40 CFR 141.40, revised as of July 1, 2001, initial monitoring must be completed according to the following schedule unless otherwise specified by the Department: (4-6-05)

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. All analyses conducted pursuant to this chapter, except those listed below, shall be performed in laboratories certified or granted reciprocity by the Department. The following analyses shall be conducted by the public water system in accordance with the procedures approved in Idaho Department of Health and Welfare Rules, IDAPA 16.02.13, Subsection 008.02, "Rules Governing Certification of Idaho Water Quality Laboratories". (10-1-93)

a. pH; (12-10-92)

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

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

d. Temperature; and (12-10-92)

e. Disinfectant residuals, except ozone, which shall be analyzed using the Indigo Method or an acceptable automated method pursuant to Subsection 300.05.c. (12-10-92)

11. Consecutive Water System. 40 CFR 141.29 is herein incorporated by reference. (10-1-93)

12. Total Trihalomethane Sampling, Analytical and Other Requirements. 40 CFR 141.30, revised as of July 1, 2001, is herein incorporated by reference. (3-15-02)

101. -- 149. (RESERVED).

150. REPORTING, PUBLIC NOTIFICATION, RECORDKEEPING.

01. Reporting Requirements. 40 CFR 141.31, revised as of July 1, 2001, is herein incorporated by reference. (3-15-02)

02. Public Notification. 40 CFR 141, Subpart Q, revised as of July 1, 2003, is herein incorporated by reference. (3-20-04)

03. Record Maintenance. 40 CFR 141.33, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

04. Unregulated Contaminant Reporting and Public Notification. 40 CFR 141.35, revised as of July 1, 2003, is herein incorporated by reference. (3-20-04)

05. Reporting and Record Keeping for the Interim Enhanced Surface Water Treatment Rule. 40 CFR 141.175, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

06. Reporting and Record Keeping Requirements for the Disinfectants and Disinfectant Byproducts Rule. 40 CFR 141.134, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

151. CONSUMER CONFIDENCE REPORTS.

40 CFR Part 141, Subpart O, revised as of July 1, 2003, is herein incorporated by reference. (3-20-04)

152. -- 199. (RESERVED).

200. SPECIAL REGULATIONS.

01. Inorganic and Organic Chemical Special Monitoring. 40 CFR 141.40 is herein incorporated by reference. (10-1-93)

02. Sodium Special Monitoring. 40 CFR 141.41 is herein incorporated by reference. (10-1-93)

03. Special Monitoring for Corrosively Characteristics. 40 CFR 141.42 is herein incorporated by reference. (10-1-93)

04. Lead Prohibition. 40 CFR 141.43, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)

201. -- 249. (RESERVED).

250. MAXIMUM CONTAMINANT LEVEL GOALS AND MAXIMUM RESIDUAL DISINFECTION LEVEL GOALS.

01. Organic Contaminants. 40 CFR 141.50 is herein incorporated by reference. (10-1-93)

02. Inorganic Contaminants. 40 CFR 141.51, revised as of July 1, 2004, is herein incorporated by reference. (4-6-05)

03. Microbiological Contaminants. 40 CFR 141.52, revised as of July 1, 1999, is herein incorporated by reference. (4-5-00)

04. Maximum Contaminant Level Goals for Disinfection Byproducts. 40 CFR 141.53, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

05. Maximum Residual Disinfectant Level Goals for Disinfectants. 40 CFR 141.54, revised as of

July 1, 2002, is herein incorporated by reference. (5-3-03)

06. Radionuclides. 40 CFR 141.55, revised as of July 1, 2001, is herein incorporated by reference. (3-15-02)

251. -- 299. (RESERVED).

300. FILTRATION AND DISINFECTION.

01. General Requirements. 40 CFR 141.70, revised as of July 1, 2002, 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. (4-6-05)

02. Criteria for Avoiding Filtration. 40 CFR 141.71, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

03. 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 groundwater 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 actual contact time of at least thirty (30) minutes at maximum hourly demand before delivery to the first customer. (12-10-92)

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 provides filtration treatment must provide disinfection treatment such that filtration plus disinfection provide at least ninety-nine and nine tenths percent (99.9%) inactivation and/or removal of *Giardia lamblia* cysts and ninety-nine and ninety-nine one hundredths percent (99.99%) inactivation and/or removal of viruses as specified in 40 CFR 141.72 and Section 300. 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* inactivation, irrespective of the *Giardia* removal credit awarded to the filtration portion of the treatment train. (5-3-03)

i. Each system which provides filtration treatment shall submit engineering evaluations and/or other documentation as required by the Department to demonstrate ongoing compliance with Subsection 300.03.c.(7-1-97)

ii. 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 and/or inactivation credit allowed for filtration is as follows:

Maximum Log Removal		
Filtration Type	Giardia	Viruses
Conventional	2.5	2.0
Direct	2.0	1.0
Slow sand	2.0	2.0
Diatomaceous earth	2.0	1.0

Maximum Log Removal		
Filtration Type	Giardia	Viruses
Membrane	3.0	1.0
Alternate technology	2.0	0

(5-3-03)

- iii. Filtration removal credit shall be granted for filtration treatment provided the system is; (12-10-92)
 - (1) Operated in accordance with the Operations Plan specified in Subsection 552.06.a.; and (12-10-92)
 - (2) The system is in compliance with the turbidity performance criteria specified under 40 CFR 141.73; and (12-10-92)
 - (3) 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 (12-10-92)
 - (4) Slow sand filters are operated at a rate not to exceed one-tenth (0.1) gallons per minute per square foot; and (12-10-92)
 - (5) Diatomaceous earth filters are operated at a rate not to exceed one and one-half (1.5) gallons per minute per square foot. (12-10-92)

04. Filtration. 40 CFR 141.73, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

05. Analytical and Monitoring Requirements. 40 CFR 141.74, revised as of July 1, 1999, is herein incorporated by reference. (4-5-00)

- a. Each public water system which provides filtration treatment shall monitor as follows: (12-10-92)
 - 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 disinfectant contact time, "T," must be determined each day during peak hourly flow. 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 hourly flow rate through that pipe. Disinfectant contact time, "T," for all other system components used for Giardia lamblia and virus inactivation shall be determined by tracer studies or equivalent methods. (12-10-92)
 - (4) The residual disinfectant concentrations at each residual disinfectant sampling point at or before the first customer, must be determined each day during peak hourly flow, or at other times approved by the Department. (12-10-92)

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 300.03 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. (12-10-92)

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 (CT_{calc}/CT_{99.9}) is determined at/or before the first customer during peak hourly flow; or (12-10-92)

(b) Sequential inactivation ratios are calculated between the point of disinfectant application and a point at or before the first customer during peak hourly flow. The following method must be used to calculate the total inactivation ratio: (12-10-92)

(i) Step 1: Determine (CT_{calc}/CT_{99.9}) for each sequence. (12-10-92)

(ii) Step 2: Add the (CT_{calc}/CT_{99.9}) 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 hourly flow. The sum of the (CT_{calc}/CT_{99.9}) values from all sequences is the total inactivation ratio. (CT_{calc}/CT_{99.9}) must be determined by the methods described in 40 CFR 141.74(b)(4)(i)(B). (12-10-92)

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 as provided for in 40 CFR 141.74(a)(5) and Subsection 300.05. Automated methods for ozone measurement must be approved by the Department. (4-6-05)

c. As provided for in 40 CFR 141.74(b), the Department may specify interim monitoring requirements for 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 Departments; (12-10-92)

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

Minimum Frequencies	
Population	Samples/day
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) The total coliform MCL is not exceeded; and (12-10-92)

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

d. The Department may allow systems with surface water sources or groundwater 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 manufacturers 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)

e. The Department may allow systems using both a surface water source(s), or groundwater source(s) under the direct influence of surface water, and one (1) or more groundwater 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 in advance of the monitoring requirement. (10-1-93)

f. 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. 40 CFR 141.75, revised as of July 1, 2001, is herein incorporated by reference. (3-15-02)

a. As provided in 40 CFR 141.75(a), revised as of July 1, 2001, 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), revised as of July 1, 2001, and as referred to in Subsection 300.06. Until filtration treatment is installed, systems required to install filtration treatment shall report as follows: (3-15-02)

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), revised as of July 1, 2001, pertaining to systems with filtration treatment, each public water system which provides filtration treatment must report the level of Giardia lamblia and virus inactivation and/or removal achieved each day by filtration and disinfection. (3-15-02)

07. Recycle Provisions. 40 CFR 141.76, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

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)

301. ENHANCED FILTRATION AND DISINFECTION - SYSTEMS SERVING TEN THOUSAND OR MORE PEOPLE.

This Section incorporates, 40 CFR Part 141, Subpart P, of the National Primary Drinking Water Regulations, known as the Interim Enhanced Surface Water Treatment Rule. (4-5-00)

01. General Requirements. 40 CFR 141.170, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

02. Criteria for Avoiding Filtration. 40 CFR 141.171, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

03. Disinfection Profiling and Benchmarking. 40 CFR 141.172, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

04. Filtration. 40 CFR 141.173, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

05. Filtration Sampling Requirements. 40 CFR 141.174, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

302. SANITARY SURVEYS.

The Department shall conduct a sanitary survey of all public water systems which use surface water or ground water under the direct influence of surface water. (4-5-00)

01. Frequency. For noncommunity 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 that a

community water system that has been determined to have outstanding performance, according to criteria established by the Department, may have a sanitary survey conducted every five (5) years. (4-5-00)

02. Report. A report describing the results of the sanitary survey will be provided to the water system. (4-5-00)

03. Response Required. A water system must respond in writing not later than forty-five (45) days after receipt of the sanitary survey report describing how and on what schedule the system will address significant deficiencies identified in the survey. (4-5-00)

04. 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. (4-5-00)

303. COMPOSITE CORRECTION PROGRAM (CCP).

The Department may require a public water system to conduct a composite correction program, as defined in Section 003 of these rules, for the purpose of identifying and correcting deficiencies in water treatment and distribution. Failure to implement the performance improvement factors identified through the CCP constitutes a violation of these rules. (4-5-00)

304. -- 309. (RESERVED).

310. ENHANCED FILTRATION AND DISINFECTION - SYSTEMS SERVING FEWER THAN TEN THOUSAND PEOPLE.

40 CFR 141, Subpart T, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

311. -- 319. (RESERVED).

320. DISINFECTANT RESIDUALS, DISINFECTION BYPRODUCTS, AND DISINFECTION BYPRODUCT PRECURSORS.

This Section incorporates 40 CFR Part 141, Subpart L, of the National Primary Drinking Water Regulations, known as the Disinfectants and Disinfection Byproducts Rule. (4-5-00)

01. General Requirements. 40 CFR 141.130, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

02. Analytical Requirements. 40 CFR 141.131, revised as of July 1, 2002, is herein incorporated by reference. DPD colorimetric test kits may be used to measure residual disinfectant concentrations for chlorine, chloramines, and chlorine dioxide. (5-3-03)

03. Monitoring Requirements. 40 CFR 141.132, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

04. Compliance Requirements. 40 CFR 141.133, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

05. Treatment Techniques for Control of Disinfection Byproduct (DBP) Precursors. 40 CFR 141.135, revised as of July 1, 2002, is herein incorporated by reference. (5-3-03)

321. -- 349. (RESERVED).

350. CONTROL OF LEAD AND COPPER.

01. General Requirements. 40 CFR 141.80, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)

02. Applicability of Corrosion Control Treatment Steps to Small, Medium-Size, and Large Water Systems. 40 CFR 141.81, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)

- 03. Description of Corrosion Control Treatment Requirements.** (12-1-92)
- a.** 40 CFR 141.82, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)
- b.** The Department may modify its determination of the optimal corrosion control treatment or optimal water quality control parameters where it concludes that such changes are necessary to optimize corrosion control treatment as specified in 40 CFR 141.82(h) and as referred to in Subsection 350.03. The Department may also modify its determination of the optimal corrosion control treatment or water quality control parameters where it finds such changes will provide equivalent or improved treatment in a manner which is simpler or less costly to operate. (12-10-92)
- 04. Source Water Treatment Requirements.** 40 CFR 141.83, revised as of July 1, 2000, is herein incorporated by reference. The Department may modify its determination of optimal source treatment or maximum permissible lead and/or copper concentrations where it concludes that such changes are necessary as specified in 40 CFR 141.83(b)(6). (3-30-01)
- 05. Lead Service Line Replacement Requirements.** 40 CFR 141.84, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)
- 06. Public Education and Supplemental Monitoring Requirements.** 40 CFR 141.85, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)
- 07. Monitoring Requirements for Lead and Copper in Tap Water.** 40 CFR 141.86, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)
- a.** Systems with insufficient tier one (1), two (2), or three (3) sampling sites shall complete their sampling pools from “tier four (4) sampling sites” consisting of buildings or multiple family residences that contain copper pipes with lead solder installed before 1983, or if these are not available, any other sampling sites acceptable to the Department. Any community water system which includes tier four (4) sites in its sampling pool shall submit a letter to the Department indicating why it was unable to locate sufficient tier one (1), two (2), or three (3) sites. (10-1-93)
- b.** Nontransient noncommunity water systems with insufficient tier one (1) and pre-1983 lead solder containing copper pipe sampling sites shall complete its sampling pool with other sampling sites acceptable to the Department. A nontransient noncommunity water system which includes sampling sites other than tier one (1) in its sampling pool, shall submit a letter to the Department indicating why it was unable to locate sufficient tier one (1) sites. (12-10-92)
- 08. Monitoring Requirements for Water Quality Parameters.** 40 CFR 141.87, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)
- 09. Monitoring Requirements for Lead and Copper in Source Water.** 40 CFR 141.88, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)
- 10. Analytical Methods.** 40 CFR 141.89, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)
- 11. Reporting Requirements.** 40 CFR 141.90, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)
- 12. Recordkeeping Requirements.** 40 CFR 141.91, revised as of July 1, 2000, is herein incorporated by reference. (3-30-01)
- 351. -- 399. (RESERVED).**
- 400. SECONDARY MCLS.**

- 01. Purpose.** 40 CFR 143.1, revised as of July 1, 2003, is herein incorporated by reference. (3-20-04)
- 02. Definitions.** 40 CFR 143.2, revised as of July 1, 2003, is herein incorporated by reference. (3-20-04)
- 03. Secondary Maximum Contaminant Levels.** 40 CFR 143.3, revised as of July 1, 2003, is herein incorporated by reference. (3-20-04)
- 04. Monitoring.** 40 CFR 143.4, revised as of July 1, 2003, is herein incorporated by reference. (3-20-04)
- 401. -- 449. (RESERVED).**
- 450. USE OF NON-CENTRALIZED TREATMENT DEVICES.**
- 01. Point of Entry Devices.** 40 CFR 141.100, revised as of July 1, 1999, is herein incorporated by reference. (4-5-00)
- 02. Point of Use (POU) Treatment Devices.** (11-17-05)T
- a.** A public water system may use point of use (POU) treatment in order to achieve compliance with certain maximum contaminant levels (MCL) or treatment techniques, in accordance with Subsection 450.02.b., when the following conditions are met: (11-17-05)T
- i.** A program for long-term operation, maintenance, and monitoring of the POU treatment system is approved by the Department, pursuant to Section 450.02.d. (11-17-05)T
- ii.** The public water system or a vendor of POU treatment devices under contract with the public water system shall own, control, and maintain the POU treatment system to ensure proper operation and maintenance and compliance with the MCL or treatment technique. (11-17-05)T
- iii.** Each POU treatment device is equipped with a mechanical warning mechanism to ensure that customers are automatically notified of operational problems. (11-17-05)T
- iv.** The POU treatment device must be certified by an accredited American National Standards Institute (ANSI) certification body to meet applicable ANSI/National Sanitation Foundation (NSF) Standards. (11-17-05)T
- b.** POU treatment devices shall not be used to achieve compliance with a MCL or treatment technique requirement for a microbial contaminant or an indicator of a microbial contaminant. Community water systems may not use POU treatment devices to achieve compliance with a nitrate MCL. (11-17-05)T
- c.** The Department will waive the plan and specification requirements as described in Subsection 551.04 relating to material modifications for the following systems only to that extent that the material modification proposed is limited to the installation and/or use of a POU treatment device(s): (11-17-05)T
- i.** Community water systems serving two hundred (200) or fewer service connections. (11-17-05)T
- ii.** Non-transient non-community water systems. (11-17-05)T
- iii.** Transient non-community water systems. (11-17-05)T
- iv.** Community water systems serving more than two hundred (200) service connections if approved by the Department through the waiver process outlined in Subsection 005.01.a. (11-17-05)T
- d.** A public water system must obtain written approval by the Department before installation of a POU

treatment device for the purpose of achieving compliance with a MCL or treatment technique. The public water system shall submit the following documentation for approval to the Department: (11-17-05)T

i. Information identifying the public water system name and number, total number of service connections, contaminant(s) to be treated, type of POU treatment device to be installed, manufacturer and model number of the POU treatment device, type and function of the mechanical warning mechanism (performance indicator) on the POU treatment device, certification verification for ANSI/NSF, installer qualifications, and a proposed date for installation of the POU treatment device(s). (11-17-05)T

ii. The manufacturer's specifications for the POU treatment device including demonstration that the POU treatment device is suited for the water chemistry of the public water system and contaminant(s) of concern and is of sufficient design and capacity for the particular application. (11-17-05)T

iii. Information relating to how other drinking water dispensing units, such as instant hot water dispensers and refrigerator water and ice dispensers, whose primary function is to provide drinking water, will be provided with treated water. If water is transported from a POU treatment device to another drinking water dispensing unit, the conducting tube shall be of non-reactive material. (11-17-05)T

iv. For non-transient non-community water systems and transient non-community water systems, demonstration that the drinking water dispensing units are located in areas adequate to protect public health. (11-17-05)T

v. Demonstration that all POU treatment devices are owned, controlled, and maintained by the public water system or by a vendor of POU treatment devices under contract with the public water system. (11-17-05)T

vi. A sampling plan identifying the location of all service connections and demonstrating how the system will ensure that all POU treatment devices are sampled for compliance with the contaminant(s) being treated during every compliance period or at a frequency designated by the state. (11-17-05)T

vii. Documentation that a customer at each service connection has agreed to installation and use of a POU treatment device and has granted access for installation, maintenance, and sampling. (11-17-05)T

viii. A plan that describes how the public water system will address any non-compliance with Subsection 450.02.d.vii. (11-17-05)T

ix. A maintenance plan that demonstrates how on-going maintenance activities will be performed and on what frequency, including: frequency of treatment media replacements, frequency of POU treatment device replacements, periodic verification that the mechanical warning device is functional, schedule of planned maintenance activities, plan of how the system will address unscheduled maintenance problems, and a plan and method of waste disposal. (11-17-05)T

x. Documentation that the system meets the current requirements for a certified operator pursuant to Section 554. (11-17-05)T

xi. A plan for on-going education and outreach to the customers of the public water system, including rental customers, on POU treatment and health effects of the contaminant(s) of concern. (11-17-05)T

xii. A plan for how the system will ensure real estate disclosures for the POU treatment system. (11-17-05)T

xiii. A statement of recognition that failure to maintain compliance with the MCL, or the failure to operate and maintain compliance with a POU treatment system as approved by the Department, may necessitate installation of centralized treatment. (11-17-05)T

e. Within thirty (30) days of installing the approved POU treatment system, the public water system shall notify the Department in writing that the POU treatment system was installed as approved by the Department. (11-17-05)T

f. Within thirty (30) days of installing the approved POU treatment system, the public water system shall submit samples from each POU treatment device to a certified laboratory for the contaminant(s) being treated by the POU treatment device. The samples shall be used to demonstrate initial compliance with the MCL. (11-17-05)T

g. The water system owner or operator must maintain records for a POU treatment system. Records shall be submitted to the Department at a frequency and in a format specified by the Department. Records to maintain shall include: (11-17-05)T

i. Requirements of Subsection 450.02.d.; (11-17-05)T

ii. All sampling performed on the POU treatment devices; (11-17-05)T

iii. Maintenance logs and schedules; (11-17-05)T

iv. Log of installed units; and (11-17-05)T

v. Contracts, lease agreements, or other legal documents with vendors and consumers. (11-17-05)T

03. Use of Bottled Water. 40 CFR 141.101, revised as of July 1, 1999, is herein incorporated by reference. (4-5-00)

451. -- 499. (RESERVED).

500. TREATMENT TECHNIQUES.

01. General Requirements. 40 CFR 141.110 is herein incorporated by reference. (10-1-93)

02. Acrylamide, Epichlorohydrin. 40 CFR 141.111 is herein incorporated by reference. (12-10-92)

501. -- 548. (RESERVED).

549. FACILITY AND DESIGN STANDARDS -- DEMONSTRATION OF TECHNICAL, FINANCIAL, AND MANAGERIAL CAPACITY OF PUBLIC DRINKING WATER SYSTEMS.

No person shall proceed, or cause to proceed, with construction of a new community or nontransient, noncommunity drinking water system until it has been demonstrated to the Department that the water system will have adequate technical, financial, and managerial capacity, as defined in Section 003 of these rules. Demonstration of capacity shall be submitted to the Department prior to or concurrent with the submittal of plans and specifications, as required in Section 39-118, Idaho Code, and Subsection 551.04 of these rules. The Department shall issue its approval of the new system capacity demonstration in writing. (4-11-06)

01. Technical Capacity. In order to meet this requirement, the public water system shall submit documentation to demonstrate the following: (4-5-00)

a. The system meets the relevant design, construction, and operating requirements of Sections 550, 551, and 552 of these rules; (4-5-00)

b. The system has an adequate and consistent source of water; (4-5-00)

c. A plan is in place to protect the water source and deal with emergencies; (4-5-00)

d. A plan exists for replacement or improvement of infrastructure as necessary; and (4-5-00)

e. The system has trained personnel with an understanding of the technical and operational characteristics of the system. (5-3-03)

02. Financial Capacity. A demonstration of financial capacity must include but is not limited to the

following information: (4-5-00)

a. Documentation that organizational and financial arrangements are adequate to construct and operate the public water system in accordance with these rules (see Sections 550, 551, and 552). This information can be provided by submitting estimated construction, operation, and maintenance costs, letters of credit, or other access to financial capital through public or private sources and, if available, a certified financial statement; (4-5-00)

b. Demonstration of revenue sufficiency, that includes but is not limited to billing and collection procedures, a proposed rate structure which is affordable and ensures availability of operating funds, revenues for depreciation and reserves, and the ability to accrue a capital replacement fund. A preliminary operating budget shall be provided; and (4-5-00)

c. Adequate fiscal controls must be demonstrated. (4-5-00)

03. Managerial Capacity. In order to demonstrate adequate managerial capacity, the owner and/or operator of a new drinking water system shall submit at least the following information to the Department: (4-5-00)

a. Clear documentation of legal ownership and any plans that may exist for transfer of that ownership on completion of construction or after a period of operation; (4-5-00)

b. The name, address, and telephone number of the person who will be accountable for ensuring that the water system is in compliance with these rules; (4-5-00)

c. The name, address, and telephone number of the system operator; (4-5-00)

d. A description of the manner in which the water system will be managed. By-laws, restrictive covenants, articles of incorporation, or procedures and policy manuals which describe the management organization structure are a means of providing this information; (4-5-00)

e. A description of staffing should be provided, including training, experience, certification or licensing, and continuing education completed by the water system staff; (4-5-00)

f. An explanation of how the water system will establish and maintain effective communications and relationships between the water system management, its customers, professional service providers, and any applicable regulatory agencies; and (4-5-00)

g. Evidence of planning for future growth, equipment repair and maintenance, and long term replacement of system components. (4-5-00)

04. Submittal Form. The Department shall provide a standard form to be used in preparing a new system capacity demonstration. (4-5-00)

05. Expanding Systems. A public water system which comes into existence as a result of growth in population or number of service connections within a previously unregulated system will be considered a new system under these rules and is subject to all design, construction and operating requirements herein. (4-5-00)

06. Consolidation. In demonstrating new system capacity, the owner of the proposed new system must investigate the feasibility of obtaining water service from an established public water system. If such service is available, but the owner elects to proceed with an independent system, the owner must explain why this choice is in the public interest in terms of environmental protection, affordability to water users, and protection of public health. (4-5-00)

07. Exclusion. New public water systems which are public utilities as defined in Sections 61-104 (Corporation), 61-124 (Water System), 61-125 (Water Corporation), and 61-129 (Public Utility), Idaho Code, must meet the regulatory requirements of the Idaho Public Utilities Commission (IPUC) in Chapter 1, Title 61, Idaho Code, Public Utilities Law, and IDAPA 31.01.01, "Rules of Procedure of the Idaho Public Utilities Commission". Such water systems will not be required to meet any requirements of this Section which are in conflict with the

provisions and requirements of the IPUC. (4-5-00)

550. FACILITY AND DESIGN STANDARDS -- DESIGN STANDARDS FOR PUBLIC DRINKING WATER SYSTEMS.

01. System Design. Unless otherwise specified by the Department, the design of new drinking water systems, or modifications to existing, public drinking water systems shall be in conformance with these rules and “Recommended Standards for Water Works, A Report of the Water Supply Committee of the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers,” except Parts One (1) and Eight (8). (4-11-06)

02. Materials. Unless otherwise authorized by the Department on a site-specific basis, materials that are used to construct public drinking water systems and have water contact surfaces must comply with applicable AWWA standards and be certified by an accredited ANSI certification body to meet ANSI/NSF Standard 53, 58, or 61. Corrosion control shall be taken into account during all aspects of public water system design. (4-6-05)

03. Wells. Any supplier of water for a public water system served by one (1) or more wells shall ensure that the following requirements are met: (12-10-92)

a. Prior to drilling, the site of a PWS well must be approved in writing by the Department. The Department shall require the supplier of water to submit a well site evaluation report that takes into account the proposed size, depth, and location of the well. The evaluation may include, but is not limited to the following types of information: (5-3-03)

- i. An evaluation of the potability and quality of anticipated groundwater. (5-3-03)
- ii. Identification of the known aquifers and the extent of each aquifer, based on the stratigraphy, sedimentation, and geologic structure beneath the proposed well site. (5-3-03)
- iii. An estimate of hydrologic and geologic properties of each aquifer and confining layers. (5-3-03)
- iv. Prediction of the sources of water to be extracted by the well and the drawdown of existing wells, springs, and surface water bodies that may be caused by pumping the proposed well. This prediction may be based on analytical or numerical models. (5-3-03)
- v. Demonstration of the extent of the capture zone of the well, based on the well’s design discharge and on aquifer geology, using estimates of hydraulic conductivity and storativity. (5-3-03)
- vi. Description of potential sources of contamination within five hundred (500) feet of the well site. (5-3-03)

b. Each well shall be located a minimum of fifty (50) feet from any potential source of contamination and no closer to specified sources of contamination than set forth in Subsection 900.01; in vulnerable settings, the Department may require engineering or hydrologic analysis to determine if the required setback distance is adequate to prevent contamination; (5-3-03)

c. Each well shall comply with the minimum Well Construction Standards and with the permitting requirements of the Idaho Water Resources Board, as set forth in Subsection 002.02.f.; except that no public water system well shall have less than fifty-eight (58) feet of annular seal of not less than two (2) inches thickness, unless: (5-3-03)

- i. It can be demonstrated to the Department’s satisfaction that there is a confining layer at lesser depth that is capable of preventing unwanted water from reaching the intake zone of the well; or (5-3-03)
- ii. The best and most practical aquifer at a particular site is less than fifty-eight (58) feet deep; or; (5-3-03)

- iii. The Department specifies a different annular seal depth based on local hydrologic conditions. (5-3-03)
- d. All tools, bits, pipe, and other materials to be inserted in the borehole must be cleaned and disinfected in accordance with the Well Construction Standards and permitting requirements of the Idaho Water Resources Board, as set forth in Subsection 002.02.f. This applies to new well construction and repair of existing wells. (5-3-03)
- e. Upon completion of a groundwater source, and prior to its use as drinking water, the following information and data must be submitted by the water system to the Department: (5-3-03)
 - i. A copy of all well logs; (12-10-92)
 - ii. Results of test pumping, as specified in Subsection 550.03.f.; (5-3-03)
 - iii. As constructed plans showing at least the following: (12-10-92)
 - (1) Annular seal, including depth and sealant material used and method of application; (5-3-03)
 - (2) Casing that meets the requirements set forth in Section 3.2.5.4 of Recommended Standards for Water Works, including weights and thicknesses specified in Table 1 of that publication; (5-3-03)
 - (3) Casing perforations, results of sieve analysis used in designing screens installed in sand or gravel aquifers, gravel packs; and (5-3-03)
 - (4) Pump location; and (12-10-92)
 - (5) For community water systems, a permanent means for measuring water level. All equipment required for conducting water level measurements shall be purchased and made available to the water system operator at the time well construction is completed. (5-3-03)
 - iv. Other information as may be specified by the Department. (12-10-92)
 - v. Sampling results for iron, manganese, corrosively, and other secondary contaminants specified by the Department. Other monitoring requirements are specified in Subsection 551.01. (5-3-03)
- f. Test pumping. Upon completion of a groundwater source, test pumping shall be conducted in accordance with the following procedures to meet the specified requirements: (12-10-92)
 - i. The well shall be test pumped at the desired yield (design capacity) of the well for at least twenty-four (24) consecutive hours after the drawdown has stabilized. Alternatively, the well may be pumped at a rate of one hundred fifty percent (150%) of the desired yield for at least six (6) continuous hours after the drawdown has stabilized. In either case, if the drawdown does not stabilize, the pumping must continue for at least seventy-two (72) consecutive hours. The field pumping equipment must be capable of maintaining a constant rate of discharge during the test. Discharge water must be piped an adequate distance to prevent recharge of the well during the test. If the well fails the test protocol, the well design shall be re-evaluated and submitted to the Department for approval. (5-3-03)
 - ii. Fifteen (15) minutes after the start of the test pumping, the sand content of a new well shall not be more than five (5) parts per million. Sand production shall be measured by a centrifugal sand sampler or other means acceptable to the Department. If sand production exceeds five (5) ppm, the well shall be screened gravel packed, and re-developed. (5-3-03)
 - iii. The following data shall be provided: (5-3-03)
 - (1) Static water level in the well prior to test pumping; (5-3-03)
 - (2) Well yield in gpm and duration of the pump test, including a discussion of any discrepancy between

- the desired yield and the yield observed during the test; (5-3-03)
- (3) Water level in the well recorded at regular intervals during pumping; (5-3-03)
 - (4) Profile of water level recovery from the pumping level projected to the original static water level. (5-3-03)
 - (5) Depth at which the test pump was positioned in the well; (5-3-03)
 - (6) Test pump capacity and head characteristics; (5-3-03)
 - (7) Sand production data. (5-3-03)
 - (8) Any available results of analysis based on the drawdown and recovery test pertaining to aquifer properties, sustained yield, and boundary conditions affecting drawdown. (5-3-03)
- iv. The Department may allow the use of other pump test protocols that are generally accepted by engineering firms with specialized experience in well construction, by the well drilling industry, or as described in national standards (such as ANSI/AWWA A100-97), as long as the minimum data specified in Subsection 550.03.f.iii. are provided. The Department welcomes more extensive data about the well, such as step-drawdown evaluations used in determining well capacity for test pumping purposes, zone of influence calculations, and any other information that may be of use in source protection activities or in routine water system operations. (5-3-03)
- v. Where aquifer yield, sustainability, or water quality are questionable, the Department, at its discretion, may require additional site specific investigations that could include test well construction, long-term pumping tests, or other means to demonstrate that the aquifer is sufficient to meet the long-term water requirements of the project. (4-11-06)
- g.** A smooth-nosed sample tap shall be provided on the discharge piping from every well at a point where pressure is maintained but prior to any treatment. Any threaded taps installed in the wellhouse must be equipped with an appropriate backflow prevention device. (5-3-03)
- h.** The discharge line shall be equipped with the necessary valves and appurtenances to allow a well to be pumped to waste at the design capacity of the well via an approved air gap at a location prior to the first service connection; (4-6-05)
- i.** A pressure gauge shall be provided at all installations; (12-10-92)
- j.** A totalizing flow meter shall be installed on the discharge line of each well. An accessible check valve shall be installed above ground in the discharge line of each well; (5-3-03)
- k.** All wells except flowing artesian wells shall be vented, with the open end of the vent screened and terminated downward at least eighteen (18) inches above the final ground surface. (4-6-05)
- l.** The following requirements apply to well casings and seals: (12-10-92)
- i. Casings shall extend a minimum of eighteen (18) inches above the final ground surface and, if the well is located within a well house, twelve (12) inches above the well house floor. (4-6-05)
 - ii. Wells shall be cased and sealed in such a manner that surface water cannot enter the well. (12-10-92)
 - iii. A watertight seal shall be provided at the top of the well casing, and shall not allow water to enter the well. (12-10-92)
 - iv. Wells completed in unconsolidated water bearing formations shall be constructed to prevent caving of the walls of the well and sand pumping. Screens and/or gravel packs shall be provided where fine grained materials

such as sands are being developed as the source of water. (12-10-92)

m. The following requirements apply to well houses as defined in Section 003, unless it can be shown that some or all of these requirements are not needed to protect the combination of system components in a given structure: (4-6-05)

i. Well houses shall be protected from flooding and be adequately drained. The floor surface shall be at least six (6) inches above the final ground surface. An electrically powered ventilation fan or automated air flow system shall be provided to remove excess heat and moisture during peak summer temperatures. If the well operates year round, a thermostatically regulated heater shall also be installed to prevent moisture buildup during cold weather. In all cases, measures must be taken to minimize corrosion of metallic and electrical components. (4-6-05)

ii. Well houses shall be provided with a locking door or access to prohibit unauthorized entrance. Plans and specifications for well houses must provide enough detail to enable the reviewing engineer to determine that the facility is secure, safe, accessible, and that it conforms to electrical and plumbing codes. (5-3-03)

iii. Well houses shall be kept clean and in good repair and shall not be used to store toxic or hazardous materials. (12-10-92)

iv. Floor drains shall not be connected to sewers, storm drains, chlorination room drains, or any other source of contamination. (12-10-92)

v. Sumps for well house floor drains shall not be closer than thirty (30) feet from the well. (12-10-92)

vi. Pitless adapters or pitless units: (12-10-92)

(1) Shall be of the type marked approved by the National Sanitation Foundation or Pitless Adapter Division of the Water Systems Council. (12-10-92)

(2) Shall be designed, constructed and installed to be watertight including the cap, cover, casing extension and other attachments. (12-10-92)

(3) Shall be field tested for leaks before being put into service. The procedure outlined in "Manual of Individual and Non-Public Water Supply Systems," as set forth in Subsection 002.02.d., or other procedure approved by the Department shall be followed. (5-3-03)

n. Wells shall not be located in pits. Exceptions to Subsection 550.03.l. will be granted by the Department if the well was constructed prior to November 5, 1964, and the installation is constructed or reconstructed in accordance with the requirements of the Department to provide watertight construction of pit walls and floors, floor drains and acceptable pit covers. (12-10-92)

o. A well lot shall be provided for wells constructed after November 1, 1977. The well lot shall be owned in fee simple by the supplier of water or controlled by lease with a term of not less than the useful life of the well and be large enough to provide a minimum distance of fifty (50) feet between the well and the nearest property line. (12-10-92)

p. New community water systems served by ground water and constructed after July 1, 1985, or existing community water systems served by ground water that are substantially modified after July, 2002, shall have a minimum of two (2) sources if they are intended to serve more than twenty-five (25) homes or equivalent. With any source out of service, the remaining source or sources shall be capable of providing either the peak hour demand of the system or maximum daily pumping demand plus equalization storage. The Department shall consider a system to be "substantially modified" when there is a combined increase of twenty-five percent (25%) or more above the system's existing configuration in the following factors: (4-6-05)

i. Population served or number of service connections; (5-3-03)

ii. Length of water mains; (5-3-03)

- iii. Peak or average water demand per connection. (5-3-03)
- q. No pesticides, herbicides, or fertilizers shall be applied to a well lot without prior approval from the Department. (12-10-92)
- r. No pesticides, herbicides, fertilizers, portable containers of petroleum products, or other toxic or hazardous materials shall be stored on a well lot, except that: (5-3-03)
 - i. An internal combustion engine to drive either a generator for emergency standby power or a pump to provide fire flows, and an associated fuel tank, may be placed on the well lot. (5-3-03)
 - ii. A propane or natural gas powered generator is preferable to reduce risk of fuel spillage. (5-3-03)
 - iii. If a diesel or gasoline-fueled engine is used, the fuel tank and connecting piping must be approved by the Underwriter's Laboratory, Inc., double-walled, meet the requirements of the local fire jurisdiction, and include both spill prevention and overflow protection features. The tank must be above ground and may be contained within the structural base of the generator unit. A licensed water system operator shall be present during filling of the tank following a period of usage, or during periodic extraction and replacement of outdated fuel. (4-6-05)
 - iv. Should the internal combustion engine be located within the well house, the floor of the well house shall be constructed so as to contain all petroleum drips and spills so that they will not be able to reach the floor drain(s). Engine exhaust shall be directly discharged outside the well house. (5-3-03)
 - v. A spill containment structure shall surround all fuel tanks and be sized to contain at least one hundred ten percent (110%) of the fuel tank volume. The Department may require additional containment capacity in settings where accumulation of snow, ice, or rain water could be expected to diminish the usable capacity of the structure. (4-6-05)
- 04. Springs.** For new spring sources, the Department may require a site evaluation report as set forth for wells in Subsection 550.03.a. Any supplier of water for a public water system served by one (1) or more springs shall ensure that the following requirements are met: (5-3-03)
 - a. Springs shall be housed in a permanent structure and protected from contamination including the entry of surface water, animals, and dust; (12-10-92)
 - b. A sample tap shall be provided; (12-10-92)
 - c. A flow meter or other flow measuring device shall be provided; and (12-10-92)
 - d. The entire area within a one hundred (100) foot radius of the spring box shall be owned by the supplier of water or controlled by a long term lease, fenced to prevent trespass of livestock and void of buildings, dwellings and sources of contamination. Surface water and drainage ditches shall be diverted from this area. (5-3-03)
- 05. Surface Sources and Groundwater Sources Under the Direct Influence of Surface Water.** (10-1-93)
 - a. Design Criteria. (12-1-92)
 - i. The system shall ensure that filtration and disinfection facilities for surface water or groundwater directly influenced by surface water sources are designed, constructed and operated in accordance with all applicable engineering practices designated by the Department. (12-10-92)
 - ii. Filtration facilities (excluding disinfection) shall be designed, constructed and operated to achieve at least two (2) log removal of *Giardia lamblia* cysts and one (1) log removal of viruses, except as allowed under Subsection 550.05.b.iii.; and (10-1-93)

- iii. Disinfection facilities shall be designed, constructed and operated so as to achieve at least one half (0.50) log inactivation of *Giardia lamblia* cysts; and (10-1-93)
 - (1) Two (2) log inactivation of viruses if using conventional and slow sand filtration technology; or (12-10-92)
 - (2) Three (3) log inactivation of viruses if using direct and diatomaceous earth filtration technology; or (12-10-92)
 - (3) Four (4) log inactivation of viruses if using alternate filtration technology. (12-10-92)
 - (4) Four (4) log inactivation of viruses if filtration treatment is not used. (10-1-93)
- iv. Higher levels of disinfection than specified under Subsection 550.05.a.iii. may be required by the Department in order to provide adequate protection against giardia and viruses. (10-1-93)
- v. For plants constructed after December 31, 1992, each filter unit must be capable of filter to waste. (12-10-92)
- vi. For plants constructed prior to December 31, 1992, each filter unit must be capable of filter to waste unless the system demonstrates through continuous turbidity monitoring or other means acceptable to the Department that water quality is not adversely affected following filter backwashing, cleaning or media replacement. (12-10-92)
- vii. For conventional, direct, membrane, and diatomaceous earth filtration technology, equipment must be provided to continuously measure the turbidity of each filter bed. (5-3-03)
- viii. Equipment must be provided and operated for continuous measurement of disinfectant residual prior to entry to the distribution system, unless the system serves fewer than three thousand three hundred (3,300) people. (12-10-92)
- ix. Diatomaceous earth filtration facilities shall include an alternate power source with automatic startup and alarm, or be designed in a manner to ensure continuous operation. (12-10-92)
 - b.** Filtration technology. (12-10-92)
 - i. The purveyor shall select a filtration technology acceptable to the Department. (12-10-92)
 - ii. Conventional, direct, membrane, slow sand and diatomaceous earth filtration technologies are generally acceptable to the Department on a case-by-case basis. (5-3-03)
 - iii. Alternate filtration technologies may be acceptable if the purveyor demonstrates all of the following to the satisfaction of the Department: (12-10-92)
 - (1) That the filtration technology: (12-10-92)
 - (a) Is certified and listed by the National Sanitation Foundation (NSF) under Standard 53, Drinking Water Treatment Units - Health Effects, as achieving the NSF criteria for cyst reduction; or (12-10-92)
 - (b) Removes or inactivates at least ninety-nine (99%) percent (two (2) logs) of *Giardia lamblia* cysts or *Giardia lamblia* cyst surrogate particles in a challenge study acceptable to the Department. (12-10-92)
 - (2) Using field studies or other means acceptable to the Department, that the filtration technology: (12-10-92)
 - (a) In combination with disinfection treatment, consistently achieves at least ninety-nine and nine

tenths percent (99.9%) (three (3) logs) removal or inactivation of *Giardia lamblia* cysts and ninety-nine and ninety-nine hundredths percent (99.99%) (four (4) logs) removal or inactivation of viruses; and (5-3-03)

(b) Meets the turbidity performance requirements of 40 CFR 141.73 (b). (12-10-92)

c. Pilot Studies. The system shall conduct pilot studies in accordance with the following requirements for all proposed filtration facilities and structural modifications to existing filtration facilities, unless the Department modifies the requirements in writing: (12-10-92)

i. The system shall obtain the Department's approval of the pilot study plan before the pilot filter is constructed and before the pilot study is undertaken. (12-10-92)

ii. The design and operation of the pilot study shall be overseen by a licensed professional engineer. (12-10-92)

iii. The system's pilot study plan shall identify at a minimum: (12-10-92)

(1) The objectives of the pilot study; (12-10-92)

(2) Pilot filter design; (12-10-92)

(3) Water quality and operational parameters to monitor; (12-10-92)

(4) Amount of data to collect; and (12-10-92)

(5) Qualifications of the pilot plant operator. (10-1-93)

iv. The system shall ensure that the pilot study is: (12-10-92)

(1) Conducted to simulate conditions of the proposed full-scale design; (12-10-92)

(2) Conducted for at least twelve (12) consecutive months or for a shorter period upon approval by the Department; (5-3-03)

(3) Conducted to evaluate the reliability of the treatment system to achieve applicable water quality treatment criteria specified for filtration systems in 40 CFR 141.72 and 40 CFR 141.73; and (12-10-92)

(4) Designed and operated in accordance with good engineering practices documented in references acceptable to the Department. (12-10-92)

d. New systems constructed after July 1, 1985, are required to install redundant disinfection components as required to maintain constant application of disinfectant whenever water is being delivered to the distribution system. (5-3-03)

06. Distribution System. Any supplier of water for a public water system shall ensure that the distribution system complies with all of the following requirements: (12-10-92)

a. The distribution system shall be protected from contamination and be designed to prevent contamination by steam condensate or cooling water from engine jackets or other heat exchange devices. (12-10-92)

b. All pumps connected directly to the distribution system shall be designed in conjunction with a water pressure relief valve of type, size, and material approved by the Department unless the Department approves another method that will prevent excessive pressure development. (5-3-03)

c. All source pumps and booster pumps connected directly to the distribution system shall have an instantaneous and totalizing flow meter unless deemed unnecessary by the Department in a particular application. The Department may require larger water systems to provide a means of automatically recording the total water

- pumped. (4-6-05)
- d.** Booster pumps must comply with the following: (12-10-92)
- i.** In-line booster pumps shall maintain an operating pressure that is consistent with the requirements specified in Subsection 552.01, and shall be supplied with an automatic cutoff when intake pressure is less than or equal to five (5) psi. (5-3-03)
- ii.** Booster pumps with a suction line directly connected to any storage reservoirs shall be protected by an automatic cutoff to prevent pump damage and avoid excessive reservoir drawdown. (4-6-05)
- iii.** Buildings enclosing booster pump stations shall be provided with an electrically powered ventilation fan or automated air flow system to remove heat and moisture during peak summer temperatures. If the facility is operated year round, a thermostatically regulated heater shall be installed to prevent moisture buildup during cold weather. (5-3-03)
- e.** Pipe and jointing materials comply with the standards set forth in Subsection 550.02. Pipe shall be manufactured of materials resistant internally and externally to corrosion and not imparting tastes, odors, color, or any contaminant into the system. Where distribution systems are installed in areas of ground water contaminated by organic compounds: (4-11-06)
- i.** Pipe and joint materials which do not allow permeation of the organic compounds shall be used; and (4-11-06)
- ii.** Non-permeable materials shall be used for all portions of the system including pipe, joint materials, hydrant leads, and service connections. (4-11-06)
- f.** Fire hydrants shall not be connected to water mains smaller than six (6) inches in diameter, and fire hydrants shall not be installed unless fireflow volumes are available. If fire flow is not provided, water mains shall be no less than three (3) inches in diameter. Any departure from this minimum standard shall be supported by hydraulic analysis and detailed projections of water use. (5-3-03)
- g.** The relation between potable and non-potable water mains shall be as follows: (4-11-06)
- i.** Non-potable mains in relation to potable water mains. (4-11-06)
- (1) Parallel installation requirements: (4-11-06)
- (a) Greater than ten (10) feet separation: no conditions. (4-11-06)
- (b) Ten (10) feet to six (6) feet separation: separate trenches, with potable main above non-potable main, and non-potable main to be constructed with potable water class pipe. (4-11-06)
- (c) Less than six (6) feet separation: design engineer to submit data to the Department for review and approval showing that this installation will protect public health and the environment and non-potable main to be constructed of potable water class pipe. (4-11-06)
- (d) Potable and non-potable water mains shall never be installed in the same trench. (4-11-06)
- (2) Non-potable mains crossing potable water mains requirements: (4-11-06)
- (a) Eighteen (18) inches or more vertical separation with potable water main above non-potable main. Non-potable main joint to be as far as possible from the potable water main. (4-11-06)
- (b) Less than eighteen (18) inches vertical separation: Non-potable main constructed with potable water class pipe and non-potable main joint as far as possible from potable water main, or sleeve non-potable pipe with potable water class pipe for ten (10) feet either side of crossing. (4-11-06)

- ii. Non-potable services in relation to potable services and non-potable services in relation to water mains. (4-11-06)
 - (1) Parallel installation requirements: (4-11-06)
 - (a) Greater than six (6) feet separation: no conditions. (4-11-06)
 - (b) Less than six (6) feet separation: design engineer to submit data that this installation will protect public health and the environment and non-potable service constructed with potable water class pipe. (4-11-06)
 - (c) Never in the same trench. (4-11-06)
 - (2) Non-potable services crossing potable water services or potable water mains requirements: (4-11-06)
 - (a) Eighteen (18) inches or more vertical separation with potable water service or main above non-potable service; non-potable joint as far as possible from crossing. (4-11-06)
 - (b) Less than eighteen (18) inches vertical separation or potable water service or main below non-potable service: non-potable service or main constructed with potable water class pipe and non-potable joint as far as possible from crossing; or, sleeve non-potable pipe with potable water class pipe for ten (10) feet either side of crossing. (4-11-06)
 - h.** A minimum horizontal distance of twenty-five (25) feet shall be maintained between any water distribution pipe and a septic tank and subsurface sewage disposal system. (4-11-06)
 - i.** All dead end water mains shall be equipped with a means of flushing and shall be flushed at least semiannually at a water velocity of two and one-half (2.5) feet per second. (4-11-06)
 - i. Dead ends shall be minimized by making appropriate tie-ins whenever practical in order to provide increased reliability of service and reduce head loss. (4-11-06)
 - ii. No water main flushing device shall be directly connected to any sewer. (4-11-06)
 - j.** Leaking water mains shall be repaired or replaced upon discovery and disinfected in accordance with American Water Works Association standards as set forth in Subsection 002.02.k. (4-6-05)
 - k.** Water mains shall be separated by at least five (5) feet from buildings, industrial facilities, and other permanent structures. (5-3-03)
 - l.** All new public water systems shall include a meter vault at each service connection. A lockable shut-off valve shall be installed in the meter vault. (5-3-03)
 - m.** All new public water systems that are constructed where topographical relief may affect water pressure at the customers' premises shall provide the Department with an analysis which demonstrates that the pressure at each designated building site will be at least forty (40) psi, based on dynamic pressure in the main, as set forth in Subsections 552.01.b.i. and ii., plus a static compensation from the elevation of the main to the elevation of each building site. (5-3-03)
 - i. If forty (40) psi cannot be provided at each designated building site, the Department may require that reasonable effort be made to provide notification to existing and potential customers of the expected pressure. (5-3-03)
 - ii. The Department will not authorize a service connection at any designated building site where analysis indicates that pressure will be less than twenty (20) psi static pressure (or twenty-six point five (26.5) psi for two (2) story buildings). (5-3-03)

n. A sufficient number of valves shall be provided on water mains to minimize inconvenience and sanitary hazards during repairs. (4-11-06)

o. Automatic air relief valves shall be equipped with a means of backflow protection. (4-11-06)

p. Surface water crossings, whether over or under water, shall be constructed as follows: (4-11-06)

i. Above water crossings: the pipe shall be adequately supported and anchored, protected from damage and freezing, and shall be accessible for repair or replacement. (4-11-06)

ii. Under water crossings: A minimum cover of two (2) feet shall be provided over the pipe. When crossing a water course that is greater than fifteen (15) feet in width, the following shall be provided: (4-11-06)

(1) The pipe shall be of special construction, having flexible, restrained, or welded water-tight joints; and (4-11-06)

(2) Valves shall be provided at both ends of water crossings so that the section can be isolated for testing or repair; the valves shall be easily accessible and not subject to flooding; and (4-11-06)

(3) Permanent taps or other provisions to allow insertion of a small meter to determine leakage and obtain water samples shall be made on each side of the valve closest to the supply source. (4-11-06)

07. Cross Connection. There shall be no connection between the distribution system and any pipes, pumps, hydrants, water loading stations, or tanks whereby unsafe water or other contaminating materials may be discharged or drawn into a public water system. (4-11-06)

a. All suppliers of water for community water systems shall implement a cross connection control program to prevent the entrance of toxic or hazardous substances to the system. Reference should be made to the AWWA "Cross Connection Control Manual," as specified in Subsection 002.02.n. of these rules. The program will include: (4-6-05)

i. An inspection once a year of all facilities listed in Subsection 900.02 (Table 2) to locate cross connections and determine required suitable protection. For new connections, suitable protection must be installed prior to providing water service. (5-3-03)

ii. Required installation and operation of adequate backflow prevention assemblies. A selection chart for various facilities, fixtures, equipment, and uses of water is provided in Subsection 900.02 (Table 2). (4-6-05)

iii. Annual inspections and testing of all installed backflow prevention assemblies by a tester licensed by a licensing authority recognized by the Department. (4-6-05)

iv. Discontinuance of service to any facility where suitable backflow protection has not been provided for a cross connection. (12-10-92)

v. If double check valves and/or reduced pressure principle backflow prevention assemblies and/or pressure vacuum breakers are used, they must pass a performance test conducted by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research and meet the American Water Works Association C-510 or C-511 standard, or an equivalent standard approved by the Department. (4-6-05)

vi. If atmospheric vacuum breakers and pressure vacuum breakers are used, they shall be marked approved by the International Association of Plumbing and Mechanical Officials (IAPMO) or by the American Society of Sanitation Engineers (ASSE). (10-1-93)

vii. Resilient seated shutoff valves shall be used after the effective date of these rules when double check valves, reduced pressure backflow prevention assemblies, and pressure vacuum breakers are installed. (5-3-03)

b. 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 for functionality on a regular basis by a licensed tester, as specified in Subsection 550.07.a.iii. (4-6-05)

08. Water Storage. Storage reservoirs shall be constructed and maintained so that the following requirements are met: (12-10-92)

a. All storage reservoirs shall be protected from flooding; (12-10-92)

b. Stored water shall be protected from contamination; (12-10-92)

i. No public water supply storage tank shall be located within five hundred (500) feet of any municipal or industrial wastewater treatment plant or any land which is spray irrigated with wastewater or used for sludge disposal. (5-3-03)

ii. No storage tank or clear well located below ground level is allowed within fifty (50) feet of a sanitary sewer or septic tank. However, if the sanitary sewer is constructed to water main standards, the minimum separation distance is ten (10) feet. (5-3-03)

c. All storage reservoirs shall have watertight roofs or covers and be sloped so that water will drain; (12-10-92)

d. Manholes shall be fitted with an overlapping watertight locked cover and be at least four (4) inches above the surface of the roof. At least two (2) manholes located above the water line shall be provided where space permits. (5-3-03)

e. Overflows shall be downturned, discharge to daylight, and be provided with either: (4-6-05)

i. A twenty-four (24) mesh noncorrodible screen installed within the pipe when practical, or; (4-6-05)

ii. An expanded metal screen installed within the pipe plus a weighted flapper valve, or; (4-6-05)

iii. An equivalent system acceptable to the Department. (4-6-05)

f. Drains shall discharge to daylight in a way that will preclude the possibility of backflow to the reservoir and, where practical, be provided with an expanded metal screen installed within the pipe that will exclude rodents and deter vandalism. (4-6-05)

g. Any vent shall extend twelve (12) inches above the roof and be constructed and screened to exclude rain, snow, birds, animals, insects, dust and other potential sources of contamination; (12-10-92)

h. The bottom of any reservoir located below the ground surface shall be constructed a minimum of four (4) feet above the high groundwater table; and (12-10-92)

i. There shall be a minimum distance of fifty (50) feet between any buried or partially buried storage reservoir and any sanitary sewers, storm sewers, or any other source of contamination. The area around ground level reservoirs shall be graded in a manner that will prevent standing water within ten (10) feet. (5-3-03)

j. Hydroneumatic (pressure) tanks shall be acceptable for small water systems serving up to one hundred fifty (150) homes. (5-3-03)

k. Removable silt stops shall be provided to prevent sediment from entering the reservoir discharge pipe. (5-3-03)

l. All unused subsurface storage tanks shall be removed and backfilled, or abandoned by extracting residual fluids and filling the structure with sand or fine gravel. (5-3-03)

09. Disinfection. Any supplier of water for a public water system shall ensure that new construction or modifications to an existing system will be flushed and disinfected in accordance with American Water Works Association Standards, as set forth in Subsection 002.02.k., prior to being placed into service. (4-6-05)

10. Violations. Any failure to comply with any provision contained in Section 550 shall be considered a design or construction defect. (12-10-92)

551. FACILITY AND DESIGN STANDARDS -- CONSTRUCTION REQUIREMENTS FOR PUBLIC WATER SYSTEMS.

01. Engineering Report. For all new water systems or material modifications to existing water systems, an engineering report shall be submitted for review and approval by the Department, or other reviewing authority in the case of water main extensions, prior to or concurrent with the submittal of plans and specifications as required in Subsection 551.04. This report shall provide the following information: (4-11-06)

- a.** A general description and location of the project; (12-10-92)
- b.** The estimated design population of the project; (12-10-92)
- c.** Design data for domestic, irrigation, fire fighting, commercial and industrial water uses, including maximum hourly, maximum daily, and average daily demands; (12-10-92)
- d.** Storage requirements; (12-10-92)
- e.** Pressure ranges for normal and peak flow conditions; (12-10-92)
- f.** A computer analysis of the hydraulics of the distribution system if requested by the Department; any analysis of an existing distribution system shall be properly calibrated. (5-3-03)
- g.** Adequacy, quality and availability of sources of water. A water system that is to be served by a separate non-potable irrigation system must provide documentation of legal water rights sufficient to ensure that the irrigation system will not compete with or in any way diminish the source of water for the potable water system. (5-3-03)
- h.** Describe the sewerage system and sewage treatment works, with special reference to their relationship to existing or proposed water works structures which may affect the operation of the water supply system, or which may affect the quality of the supply. (4-11-06)
- i.** Characterize the various wastes from the water treatment plant, if applicable, their volume, constituents, proposed treatment and disposal. If discharging to a sanitary sewerage system, verify that the system is capable of handling the flow to the treatment works and that the treatment works is capable and willing to accept the additional loading. (4-11-06)
- j.** For a community system, results of analysis for total coliform, inorganic chemical contaminants, organic chemicals, and radionuclide contaminants set forth in Subsections 050.01, 050.02, 050.05, 100.01, 100.03, 100.04, 100.05, and 100.06, unless analysis is waived pursuant to Subsection 100.07. (5-3-03)
- k.** For a nontransient noncommunity system, results of analysis for total coliform and inorganic and organic chemical contaminants listed in Subsections 050.01, 050.02, 100.01, 100.03, 100.04, unless analysis is waived pursuant to Subsection 100.07. (5-3-03)
- l.** For a transient noncommunity system, results of a total coliform, nitrite, and nitrate analysis listed in Subsections 050.01, 100.01 and 100.03. (5-3-03)
- m.** For any system supplied by surface water or groundwater under the direct influence of surface water, results of turbidity analysis listed in Subsection 100.02. (12-10-92)

n. For all new groundwater sources, including but not limited to wells, springs, and infiltration galleries, systems shall supply information as required by the Department to determine if these sources are under the direct influence of the surface water. (12-10-92)

o. Potential sources of contamination to proposed sources of water; (12-10-92)

p. Mechanisms for protection of the system from flooding; (12-10-92)

q. In addition to the items listed in Subsections 551.01.a. through 551.01.p., the following information must be provided for proposed surface water sources and groundwater sources under the direct influence of surface water: (4-11-06)

i. Hydrological and historical stream flow data; (4-11-06)

ii. A copy of the water right from the Idaho Department of Water Resources; (12-10-92)

iii. Anticipated turbidity ranges, high and low; and (12-10-92)

iv. Treatment selection process and alternative evaluations. (12-10-92)

r. In addition to the items listed in Subsections 551.01.a. through 551.01.n., the following information must be provided for a proposed groundwater source: (12-10-92)

i. A site evaluation report as required in Subsection 550.03.a. for wells and Subsection 550.04 for springs; (5-3-03)

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

iii. Underground geological data and existing well logs. (12-10-92)

iv. If the water is to be treated, summarize the adequacy of proposed processes and unit parameters for the treatment of the specific water. Bench scale testing, pilot studies, or demonstrations of treatment adequacy may be required. (4-11-06)

s. Generally discuss soil, ground water conditions, and potential building foundation problems, including a description of: (4-11-06)

i. The character of the soil through which water mains are to be laid; (4-11-06)

ii. Foundation conditions prevailing at sites of proposed structures; and (4-11-06)

iii. The approximate elevation of ground water in relation to subsurface structures. (4-11-06)

02. Ownership. Documentation of the ownership and responsibility for operating the proposed system shall be made available to the Department prior to or concurrent with the submittal of plans and specifications as required in Subsection 551.04. The documentation must show organization and financial arrangements adequate to assure construction, operation and maintenance of the system according to these rules. Documentation shall also include the name of the water system, the name, address, and phone number of the supplier of water, the system size, and the name, address, and phone number of the system operator. (10-1-93)

03. Connection to an Existing System. If the proposed project is to be connected to an existing public water system, a letter from the purveyor must be submitted to the Department stating that they will be able to provide services to the proposed project. This letter must be submitted prior to or concurrent with the submittal of plans and specifications as required in Subsection 551.04. (12-10-92)

04. Review of Plans and Specifications. "Recommended Standards for Water Works, A Report of the

Water Supply Committee of the Great lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers” except Parts One (1) and Eight (8), and all applicable laws, rules, and standards shall be applied in the review of plans and specifications for public water system facilities. With respect to water main extensions, as defined in Section 003, these rules shall apply. “Idaho Guidance for Public Drinking Water Systems” shall be used only to provide assistance in applying and interpreting these rules. (4-11-06)

a. Prior to construction of new public drinking water systems, new drinking water systems designed to serve ten (10) or more service connections, or material modifications of existing public water systems, plans and specifications must be submitted to the Department for review and approval. Plans and specifications for water main extensions shall not require pre-construction approval by the Department when such extensions will be owned and operated by a city, county, quasi-municipal corporation or regulated public utility, provided that such plans and specifications are reviewed and approved by a qualified Idaho licensed professional engineer who was not involved in the preparation of the plans and specifications being reviewed to verify compliance with the requirements of these rules prior to initiation of construction. (4-11-06)

b. The Department shall review plans and specifications to determine compliance with these rules and engineering standards of care. If the plans and specifications comply with these rules and engineering standards of care, the Department shall not substitute its judgement for that of the owner’s design engineer concerning the manner of compliance with the rule. (4-11-06)

c. The Department shall review plans and specifications and endeavor to resolve design issues within forty-two (42) calendar days of submittal such that approval can be granted. If the Department and applicant have not resolved design issues within forty-two (42) calendar days or at any time thereafter, the applicant may file a written demand to the Department for a decision. Upon receipt of such written demand, the Department shall deliver a written decision to the applicant within no more than seven (7) calendar days explaining any reasons for disapproval. The Department shall maintain records of all written demands for decision made pursuant to Subsection 551.04.c. with such records including the final decision rendered and the timeliness thereof. (4-11-06)

d. Plans and specifications shall be submitted by an Idaho registered professional engineer and bear the imprint of the engineer’s seal; except that the Department will accept the seal of an Idaho registered professional geologist on the following: (5-3-03)

- i.** Well or spring source site evaluation reports, as specified in Subsections 550.03.a. and 550.04. (5-3-03)
- ii.** Plans and specifications for well construction and results of field inspection and testing, as specified in Subsections 550.03.e. and 550.03.f. (5-3-03)

e. Plans and specifications shall, where pertinent, provide the following: (4-11-06)

- i.** General layout, including: (4-11-06)
 - (1) Suitable title; (4-11-06)
 - (2) Name of municipality or other entity or person responsible for the water supply; (4-11-06)
 - (3) Area or institution to be served; (4-11-06)
 - (4) Scale of drawings; (4-11-06)
 - (5) North point; (4-11-06)
 - (6) Datum used; (4-11-06)
 - (7) General boundaries of municipality or area to be served; (4-11-06)
 - (8) Date, name, and address of the designing engineer; (4-11-06)

- (9) Legible prints suitable for reproduction; (4-11-06)
- (10) Location and size of existing water mains, if applicable; and (4-11-06)
- (11) For systems undergoing material modification, location and nature of existing water works structures and appurtenances affecting the proposed improvements. (4-11-06)
 - ii. Detailed plans, including: (4-11-06)
 - (1) Stream crossings, providing profiles with elevations of the stream bed and the estimated normal and extreme high and, where appropriate, low water levels; (4-11-06)
 - (2) Location and size of the property to be used for the development with respect to known references such as roads, streams, section lines, or streets; (4-11-06)
 - (3) Topography and arrangement of present or planned wells or structures; (4-11-06)
 - (4) Elevations of the one hundred (100) year flood level in relation to the floor of structures, upper termination of protective casings, and grade surrounding facilities; (4-11-06)
 - (5) Details of well construction, including diameter and depth of drill holes, casing and liner diameters and depths, grouting depths, elevations, and designation of geological formations, water levels and other data as specified in Subsection 550.03.e; (4-11-06)
 - (6) Location of all known existing and potential sources of pollution which may affect the water source or underground treated storage facilities; (4-11-06)
 - (7) Size, length, and materials of proposed water mains; (4-11-06)
 - (8) Location of existing or proposed streets; water sources, ponds, lakes, and drains; storm sanitary, combined and house sewers; septic tanks, disposal fields and cesspools; (4-11-06)
 - (9) Schematic flow diagrams and hydraulic profiles showing the flow through various plant units; (4-11-06)
 - (10) Piping in sufficient detail to show flow through the plant including waste lines; (4-11-06)
 - (11) Locations of all chemical storage areas, feeding equipment, and points of chemical application; (4-11-06)
 - (12) All appurtenances, specific structures, equipment, water treatment plant waste disposal units and points of discharge having any relationship to the plans for water mains or water works structures; (4-11-06)
 - (13) Locations of sanitary or other facilities, such as lavatories, showers, toilets, and lockers, when applicable or required by the Department; (4-11-06)
 - (14) Locations, dimensions, and elevations of all proposed plant facilities; (4-11-06)
 - (15) Locations of all sampling taps; and (4-11-06)
 - (16) Adequate description of any significant features not otherwise covered by the specifications that may impact public safety or welfare. (4-11-06)
 - iii. Complete, detailed technical specifications shall be supplied for the proposed project, including: (4-11-06)

- (1) A program for keeping existing water works facilities in operation during construction of additional facilities so as to minimize interruption of service; (4-11-06)
- (2) Laboratory facilities and equipment; (4-11-06)
- (3) Description of chemical feeding equipment; (4-11-06)
- (4) Procedures for flushing, disinfection and testing, as needed, prior to placing the project in service; (4-11-06)
- and
- (5) Materials or proprietary equipment for sanitary or other facilities, including any necessary backflow or back-siphonage protection. (4-11-06)
- iv. Complete design criteria, as set forth in these rules. (4-11-06)
- v. The Department may require additional information which is not part of the construction drawings, including but not limited to head loss calculations, proprietary technical data, and copies of contracts, (4-11-06)
- f. Except for water main extensions, as set forth in Subsection 551.04.a., during construction or modification, the Department must be notified of any material deviation from the approved plans. The Department's prior written approval is required before any material deviation is allowed. (4-11-06)
- g. Within thirty (30) calendar days of the completion of construction of facilities for which plans are required to be reviewed pursuant to Subsection 551.04.a., record plans and specifications based on information provided by the construction contractor and field observations made by the engineer or the engineer's designee depicting the actual construction of facilities performed, must be submitted to the Director by the engineer representing the city, county, quasi-municipal corporation or regulated public utility that owns the project, or by the design engineer or owner-designated substitute engineer if the facilities will not be owned and operated by a city, county, quasi-municipal corporation or regulated public utility. Such submittal by the professional engineer must confirm material compliance with the approved plans and specifications or disclose any material deviations therefrom. If the construction does not materially deviate from the approved plans and specifications, the owner may have a statement to that effect prepared by a qualified Idaho licensed professional engineer and filed with the Department in lieu of submitting a complete and accurate set of record drawings. (4-11-06)
- 05. Exception.** A District Health Department may exclude noncommunity water systems from the Department's plan and specification review if the District has reviewed the project and will inspect it during construction. The Department may waive the plan and specification approval required of any particular facility or category of facilities when doing so will have no significant impact on public health or the environment. (4-11-06)
- 06. Construction.** No construction shall commence until all of the necessary approvals have been received from the Department. (12-10-92)
- 07. Source.** Before a public water system uses a new source of water to provide water to consumers, the source shall be approved by the Department. (12-10-92)
- 08. Installation of Water Mains.** Division 400 of "Idaho Standards for Public Works Construction," as specified in Subsection 002.02.p., may be used as guidance for installation of water mains. In addition, the following provisions shall apply: (4-11-06)
- a. Installed pipe shall be pressure tested and leakage tested in accordance with the applicable AWWA Standards or manufacturer's standard for high-density polyethylene. (4-11-06)
- b. New, cleaned, and repaired water mains shall be disinfected in accordance AWWA Standard C651. The specifications shall include detailed procedures for the adequate flushing, disinfection, and microbiological testing of all water mains. (4-11-06)
- c. In areas where aggressive soil conditions are suspected or known to exist, analyses shall be

performed to determine the actual aggressiveness of the soil. If soils are found to be aggressive, action shall be taken to protect metallic joint restraints and the water main, such as encasement in polyethylene, provision of cathodic protection, or use of corrosion resistant materials. (4-11-06)

d. The Department must approve any interconnection between potable water supplies, taking into account differences in water quality between the two (2) systems. (4-11-06)

e. A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a depth of at least six (6) inches below the bottom of the pipe. (4-11-06)

f. Water mains shall be covered with sufficient earth or other insulation to prevent freezing. (4-11-06)

g. All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement. (4-11-06)

09. Well Abandonment. Any water supply well that will no longer be used must be abandoned by sealing the borehole carefully to prevent pollution of the groundwater, eliminate any physical hazard, conserve aquifer yield, maintain confined head conditions in artesian wells, and prevent mixing of waters from different aquifers. The objective of proper well abandonment procedures is to restore, as far as possible, the original hydrogeologic conditions. The services of a licensed well driller are required. Instructions for abandoning various types of wells may be obtained from the Idaho Department of Water Resources. (5-3-03)

552. FACILITY AND DESIGN STANDARDS -- OPERATING CRITERIA FOR PUBLIC WATER SYSTEMS.

01. Quantity and Pressure Requirements. (12-1-92)

a. Minimum Quantity. The capacity of a public drinking water system shall in no instance be less than eight hundred (800) gallons per day per residence, plus irrigation flows. (5-3-03)

b. Minimum Pressure. (12-1-92)

i. Any public water system shall be capable of providing sufficient water during maximum hourly demand conditions (including fire flow) 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. (4-11-06)

ii. Any public water system constructed or significantly modified after July 1, 1985, shall maintain a minimum pressure of forty (40) psi throughout the distribution system, during maximum hourly demand conditions, excluding fire flow, measured at the service connection or along the property line adjacent to the consumer's premises. (4-11-06)

(1) Existing water systems that are planning to expand their service area shall meet the criteria in Subsections 552.01.b.i. and 552.01.b.ii. in the new service area. (4-11-06)

(2) 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. (5-3-03)

iii. 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 devices installed in the distribution main. 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.

(5-3-03)

iv. 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)

v. When pressures within the system are known to have fallen below twenty (20) psi, the water system must provide public notice and disinfect the system. (5-3-03)

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 nonpotable irrigation system is provided for the consumers, all mains, hydrants and appurtenances shall be easily identified as nonpotable. 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. Additives. No chemical or other substance shall be added to drinking water, nor shall any process be utilized to treat drinking water, unless specifically approved by the Department. All chemicals shall conform to applicable American Water Works Association Standards as set forth in Subsection 002.02.k., and be listed as approved under ANSI/NSF standard 60 or 61, as specified in Subsections 002.02.l. and 002.02.m. (4-11-06)

03. Groundwater. (12-10-92)

a. Public water systems constructed after July 1, 1985, and supplied by groundwater, shall treat water within the system by disinfection if the groundwater 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 groundwater if the system consistently exceeds the MCL for coliform, 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)

04. Operating Criteria. The operating criteria for systems supplied by surface water or groundwater under the direct influence of surface water shall be as follows: (12-10-92)

a. Each system must develop and follow a water treatment operations plan acceptable to the Department, by July 31, 1993, or within six (6) months of installation of filtration treatment, whichever is later. For a maximum of twelve (12) months, this may be a draft operations plan based on pilot studies or other criteria acceptable to the Department. After twelve (12) months the plan shall be finalized based on full scale operation. (12-10-92)

b. The purveyor shall ensure that treatment facilities are operated in accordance with good engineering practices such as those found in the Recommended Standards for Water Works, A Report of the Water Supply Committee of the Great Lakes - Upper Mississippi River Board of Public Health and Environmental Managers as set forth in Subsection 002.02.c., or other equal standard designated by the Department. (4-6-05)

c. New treatment facilities shall be operated in accordance with Subsection 552.04.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. (12-10-92)

05. 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 Section 300 and Subsection 550.05. (4-6-05)

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 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 of viruses. The required contact time will be specified by the Department. This condition must be attainable even when the maximum hourly demand coincides with anticipated maximum chlorine demands. (4-6-05)

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 is not reasonably constant. (12-10-92)

iv. Analysis for free chlorine residual shall be made at least daily and records of these analyses shall be kept by the supplier of water for at least one (1) year. The frequency of measuring free chlorine residuals shall be sufficient to detect variations in chlorine demand or changes in water flow. (4-6-05)

v. A separate and ventilated room for gas chlorination equipment shall be provided. (12-10-92)

vi. The Department may, in its discretion, require a treatment rate higher than that specified in Subsection 552.05.a.i. (4-6-05)

vii. When chlorine gas is used, chlorine leak detection devices and safety equipment shall be provided in accordance with the 1992 Recommended Standards for Water Works, as set forth in Subsection 002.02.c. (12-10-92)

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 is not reasonably constant. (4-6-05)
- 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 552.05.b.ii. also apply if the system maintains a chlorine residual in the distribution system. (4-6-05)

06. Fluoridation. (12-1-92)

a. Commercial sodium fluoride, sodium silico fluoride and hydrofluosilicic acid which conform to the applicable American Water Works Association Standards are acceptable as set forth in Subsection 002.02.k. Use of other chemicals shall be specifically approved by the Department. (4-6-05)

b. The accuracy of chemical feeders used for fluoridation shall be plus or minus five percent (5%) of the intended dose. (12-10-92)

c. Fluoride compounds shall be stored in covered or unopened shipping containers. Storage areas shall be ventilated. (12-10-92)

d. Provisions shall be made to minimize the quantity of fluoride dust. (12-10-92)

e. 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)

553. CLASSIFICATION OF WATER SYSTEMS.

01. System Classification Required. The Department shall classify community, nontransient noncommunity, and surface water systems based on indicators of potential health risks. (4-6-05)

a. The owner or designee of every community and nontransient noncommunity public water system shall submit proof of the current conditions related to the classification of the system every five (5) years or more frequently if required by the Department. (4-6-05)

b. The owner or designee of all surface water systems shall submit proof of the current conditions related to the classification of the system every five (5) years or more frequently if required by the Department. (4-6-05)

02. Classification Criteria. Systems shall be classified under a system that uses the following criteria: (4-6-05)

a. Complexity, size, and type of source water for treatment facilities. (3-16-04)

b. Complexity and size of distribution systems. (4-5-00)

c. Other criteria deemed necessary to completely classify systems. (4-5-00)

d. The Department shall develop guidelines for applying the criteria set forth in Section 553. (3-16-04)

554. LICENSE REQUIREMENTS.

01. Licensed Operator Required. (4-6-05)

a. Owners of all community and nontransient noncommunity public drinking water systems must place the direct supervision of their drinking water system, including each treatment facility and/or distribution system, under the responsible charge of a properly licensed operator. (4-6-05)

b. Owners of all surface water systems must place the direct supervision of their public drinking water system under the responsible charge of a properly licensed operator. (4-6-05)

02. Responsible Charge Operator License Requirement. An operator in responsible charge of a public drinking water system must hold a valid license equal to or greater than the classification of the public water system where the responsible charge operator is in responsible charge. (4-6-05)

03. Substitute Responsible Charge Operator License Requirement. At such times as the responsible charge operator is not available, a substitute responsible charge operator shall be designated to replace the responsible charge operator. A substitute responsible charge operator of a public water system must hold a valid license equal to or greater than the classification of the public water system where the substitute responsible charge operator is in responsible charge. (4-6-05)

04. Shift Operator Requirement. Any public drinking water system subject to these requirements with multiple operating shifts must have a designated properly licensed operator available for each operating shift. An on-duty designated shift operator does not replace the requirements in Subsections 554.01 and 554.03 for responsible charge operator coverage during all operating shifts. (4-6-05)

05. Water Operator License Requirement. All operating personnel at public drinking water systems subject to these requirements making process control/ system integrity decisions about water quality or quantity that affect public health must hold a valid and current license. (4-6-05)

555. -- 559. (RESERVED).

560. CONTRACTING FOR SERVICES.

Public water systems may contract with persons to provide responsible charge operators and substitute responsible charge operators. Proof of such contract shall be submitted to the Department prior to the contracted person performing any services at the public water system. (4-6-05)

561. -- 562. (RESERVED).

563. ADVISORY GROUP.

Stakeholder Involvement. Ongoing stakeholder involvement will be provided through the existing drinking water advisory committee at the Department. (4-5-00)

564. -- 899. (RESERVED).

900. TABLES

01. Table 1 -- Minimum Distances From a Public Water System Well.

Minimum Distances from a Public Water System Well	
Sewer line	50 feet
Individual home septic tank	100 feet
Individual home disposal field	100 feet
Individual home seepage pit	100 feet

Minimum Distances from a Public Water System Well	
Privies	100 feet
Livestock	50 feet
Canals, streams, ditches, lakes, ponds and tanks used to store nonpotable substances	50 feet

(12-10-92)

02. Table 2 -- Selection Chart for Minimum Backflow Prevention Services.

SELECTION CHART FOR MINIMUM BACKFLOW PREVENTION DEVICES					
FACILITIES, FIXTURES, EQUIPMENT, OR USE OF WATER	ATMOSPHERIC TYPE VACUUM BREAKER	PRESSURE TYPE VACUUM BREAKER	DOUBLE CHECK VALVE ASSEMBLY	REDUCED PRESSURE BACKFLOW PREVENTER	AIR GAP
Animal Watering	X	X		X	X
Aspirators, harmful substance	X	X		X	X
Autopsy Equipment	X	X		X	
Autoclaves				X	
Boiler Feeds without harmful chemicals			X		
Boiler Feeds with harmful chemicals				X	X
Bed Pan Washers	X	X			
Cuspidors, Open Outlet	X	X			
Cuspidors, Valved Outlet		X			
Dairies and Farms -- high risk				X	X
Dairies and Farms -- low risk			X	X	X
Dishwashers	X	X			X
Domestic Water Booster Pump on service lines			X	X	
Garbage Can Washers		X			X
Heat Exchangers with transfer fluids			X	X	
High Rise Buildings, 3 stories or more, bldgs. on hill			X	X	
Irrigation Systems, such as cemeteries, golf courses, playgrounds, parks, estates, ranches, schools, and residential uses with chemicals added				X	X
Irrigation Systems, such as cemeteries, golf courses, playgrounds, parks, estates, ranches, schools, and residential uses without chemicals added	X	X	X		
Laundries with under rim or bottom-fill inlets, dry cleaning, and dye works	X	X		X	X
Mobile Home and RV Parks with nonapproved waste valves		X	X	X	

SELECTION CHART FOR MINIMUM BACKFLOW PREVENTION DEVICES					
FACILITIES, FIXTURES, EQUIPMENT, OR USE OF WATER	ATMOSPHERIC TYPE VACUUM BREAKER	PRESSURE TYPE VACUUM BREAKER	DOUBLE CHECK VALVE ASSEMBLY	REDUCED PRESSURE BACKFLOW PREVENTER	AIR GAP
Mobile Home and RV Parks with below ground level service line termination				X	
Fixing Tees with steam and water used with harmful substances				X	
Fixing Tees with steam and water used without harmful substances			X		
Private Water Sources which are unmonitored				X	
Radiator-Vats				X	X
Slaughter Houses				X	
Car Washes using soaps and waxes			X	X	
Chemical Plants				X	X
Dockside Watering Facilities, Marinas	X		X	X	X
Film Laboratories				X	X
Food Processing Plants			X	X	X
Fertilizer Plants				X	X
Hospitals handling harmful substances				X	
Lab Sink using toxics (unharmful)	X	X	X	X	
Meat Packing Plants				X	
Medical Bldgs, clinics, laboratories, etc.				X	
Nonpotable Water				X	X
Oil Refinery and Petroleum Storage Facilities				X	
Sanitariums	X	X		X	
Sewage Piping or Plants				X	X
Tank Truck Fill Station				X	X
Mortuaries				X	
Hoses that could be in contact with animal waste	X	X			
Shampoo Sprays	X	X			
Sterilizers				X	
Steam Cookers using low health risk substance			X		
Steam Cookers using high health risk substance				X	
Swim Pools, Hot Tubs, private or semiprivate	X	X		X	X
Swim Pools direct connection	X	X		X	X

SELECTION CHART FOR MINIMUM BACKFLOW PREVENTION DEVICES					
FACILITIES, FIXTURES, EQUIPMENT, OR USE OF WATER	ATMOSPHERIC TYPE VACUUM BREAKER	PRESSURE TYPE VACUUM BREAKER	DOUBLE CHECK VALVE ASSEMBLY	REDUCED PRESSURE BACKFLOW PREVENTER	AIR GAP
Urinals	X			X	
Water Cooling or Heating Coils		X		X	
Water Closets	X			X	

X -- indicates suitable protection to be required by the public water system. For facilities with multiple options, the public water system will determine the lowest degree of protection that is acceptable. (4-6-05)

901. -- 999. (RESERVED).

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