

AMENDATORY SECTION (Amending WSR 08-03-061, filed 1/14/08, effective 2/14/08)

WAC 246-290-010 Definitions. Abbreviations and acronyms:

ADD - average day demand;

AG - air gap;

ANSI - American National Standards Institute;

AVB - atmospheric vacuum breaker;

AWWA - American Water Works Association;

BAT - backflow assembly tester;

C - residual disinfectant concentration in mg/L;

CCS - cross-connection control specialist;

CFR - code of federal regulations;

CPE - comprehensive performance evaluation;

CT - the mathematical product in mg/L - minutes of "C" and "T";

CTA - comprehensive technical assistance;

CWSSA - critical water supply service area;

DBPs - disinfection (~~(by-products)~~) byproducts;

DCDA - double check detector assembly;

DCVA - double check valve assembly;

DVGW - Deutsche Vereinigung des Gas und Wasserfaches;

EPA - Environmental Protection Agency;

ERU - equivalent residential unit;

gph - gallons per hour;

gpm - gallons per minute;

GAC - granular activated carbon;

GAC10 - granular activated carbon with ten-minute empty bed contact time (~~(based on average daily flow and one hundred eighty-day reactivation frequency)~~);

GAC20 - granular activated carbon with a twenty-minute empty bed contract time;

GW - ground water under the direct influence of surface water;

HAA5 - haloacetic acids (five);

HPC - heterotrophic plate count;

IAPMO - International Association of Plumbing and Mechanical Officials;

IDSE - initial distribution system evaluation;

kPa - kilo pascal (SI units of pressure);

LRAA - locational running annual average;

MCL - maximum contaminant level;

MDD - maximum day demand;

mg/L - milligrams per liter (1 mg/L = 1 ppm);

mL - milliliter;

mm - millimeter;
MRDL - maximum residual disinfectant level;
MRDLG - maximum residual disinfectant level goal;
MTTP - maximum total trihalomethane potential;
NSF - NSF International (formerly known as the National Sanitation Foundation (NSF));
NTNC - nontransient **noncommunity**;
NTU - nephelometric turbidity unit;
ONORM - Osterreichisches Normungsinstitut;
PAA - project approval application;
pCi/L - picocuries per liter;
PHD - peak hourly demand;
ppm - parts per million (1 ppm = 1 mg/L);
psi - pounds per square inch;
PVBA - pressure vacuum breaker assembly;
RAA - running annual average;
RPBA - reduced pressure backflow assembly;
RPDA - reduced pressure detector assembly;
SAL - state advisory level;
SCA - sanitary control area;
SDWA - Safe Drinking Water Act;
SEPA - State Environmental Policy Act;
SOC - synthetic organic chemical;
SMA - satellite management agency;
SPI - special purpose investigation;
SRF - state revolving fund;
SUVA - specific ultraviolet absorption;
SVBA - spill resistant vacuum breaker assembly;
SWTR - surface water treatment rule;
T - disinfectant contact time in minutes;
TTHM - total trihalomethane;
TNC - transient **noncommunity**;
TNTC - too numerous to count;
TOC - total organic carbon;
ug/L - micrograms per liter;
UL - Underwriters Laboratories, Inc.;
umhos/cm - micromhos per centimeter;
UPC - Uniform Plumbing Code;
UTC - utilities and transportation commission;
VOC - volatile organic chemical;
WAC - Washington Administrative Code;
WFI - water facilities inventory form;
WHPA - wellhead protection area; and
WUE - water use efficiency.

"Acute" means posing an immediate risk to human health.

"Alternative filtration technology" means a filtration process for substantial removal of particulates (generally > 2 log *Giardia lamblia* cysts and ≥ 2-log removal of *Cryptosporidium* oocysts) by other than conventional, direct, diatomaceous earth, or slow sand filtration processes.

"Analogous treatment system" means an existing water treatment system that has unit processes and source water quality characteristics that are similar to a proposed treatment system.

"Approved air gap" means a physical separation between the free-flowing end of a potable water supply pipeline and the overflow rim of an open or nonpressurized receiving vessel. To be an air gap approved by the department, the separation must be at least:

Twice the diameter of the supply piping measured vertically from the overflow rim of the receiving vessel, and in no case be less than one inch, when unaffected by vertical surfaces (sidewalls); and:

Three times the diameter of the supply piping, if the horizontal distance between the supply pipe and a vertical surface (sidewall) is less than or equal to three times the diameter of the supply pipe, or if the horizontal distance between the supply pipe and intersecting vertical surfaces (sidewalls) is less than or equal to four times the diameter of the supply pipe and in no case less than one and one-half inches.

"Approved atmospheric vacuum breaker (AVB)" means an AVB of make, model, and size that is approved by the department. AVBs that appear on the current approved backflow prevention assemblies list developed by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research or that are listed or approved by other nationally recognized testing agencies (such as IAPMO, ANSI, or UL) acceptable to the authority having jurisdiction are considered approved by the department.

"Approved backflow preventer" means an approved air gap, an approved backflow prevention assembly, or an approved AVB. The terms "approved backflow preventer," "approved air gap," or "approved backflow prevention assembly" refer only to those approved backflow preventers relied upon by the purveyor for the protection of the public water system. The requirements of WAC 246-290-490 do not apply to backflow preventers installed for other purposes.

"Approved backflow prevention assembly" means an RPBA, RPDA, DCVA, DCDA, PVBA, or SVBA of make, model, and size that is approved by the department. Assemblies that appear on the current approved backflow prevention assemblies list developed by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research or other entity acceptable to the department are considered approved by the department.

"As-built drawing" means the drawing created by an engineer from the collection of the original design plans, including changes made to the design or to the system, that reflects the actual constructed condition of the water system.

"Authority having jurisdiction" (formerly known as local administrative authority) means the local official, board, department, or agency authorized to administer and enforce the provisions of the Uniform Plumbing Code as adopted under chapter 19.27 RCW.

"Authorized agent" means any person who:

Makes decisions regarding the operation and management of a public water system whether or not he or she is engaged in the physical operation of the system;

Makes decisions whether to improve, expand, purchase, or sell the system; or

Has discretion over the finances of the system.

"Authorized consumption" means the volume of metered and unmetered water used for municipal water supply purposes by consumers, the purveyor, and others authorized to do so by the purveyor, including, but not limited to, fire fighting and training, flushing of mains and sewers, street cleaning, and watering of parks and landscapes. These volumes may be billed or unbilled.

"Average day demand (ADD)" means the total quantity of water use from all sources of supply as measured or estimated over a calendar year divided by three hundred sixty-five. ADD is typically expressed as gallons per day (gpd) per equivalent residential unit (ERU).

"Backflow" means the undesirable reversal of flow of water or other substances through a cross-connection into the public water system or consumer's potable water system.

"Backflow assembly tester" means a person holding a valid BAT certificate issued under chapter 246-292 WAC.

"Backpressure" means a pressure (caused by a pump, elevated tank or piping, boiler, or other means) on the consumer's side of the service connection that is greater than the pressure provided by the public water system and which may cause backflow.

"Backsiphonage" means backflow due to a reduction in system pressure in the purveyor's distribution system and/or consumer's water system.

"Bag filter" means a pressure-driven separation device that removes particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed of a nonrigid, fabric filtration media housed in a pressure vessel in which the direction of flow is from the inside of the bag to outside.

"Bank filtration" means a water treatment process that uses a well to recover surface water that has naturally infiltrated into ground water through a river bed or bank(s). Infiltration is typically enhanced by the hydraulic gradient imposed by a nearby pumping water supply or other well(s).

"Best available technology" means the best technology, treatment techniques, or other means that EPA finds, after examination for efficacy under field conditions, are available, taking cost into consideration.

"Blended sample" means a sample collected from two or more individual sources at a point downstream of the confluence of the individual sources and prior to the first connection.

"C" means the residual disinfectant concentration in mg/L at a point before or at the first consumer.

"Cartridge filter" means a pressure-driven separation device that removes particulate matter larger than 1 micrometer using an

engineered porous filtration media. They are typically constructed as rigid or semi-rigid, self-supporting filter elements housed in pressure vessels in which flow is from the outside of the cartridge to the inside.

"Category red operating permit" means an operating permit identified under chapter 246-294 WAC. Placement in this category results in permit issuance with conditions and a determination that the system is inadequate.

"Chemical contaminant treatment facility" means a treatment facility specifically used for the purpose of removing chemical contaminants.

"Clarification" means a treatment process that uses gravity (sedimentation) or dissolved air (flotation) to remove flocculated particles.

"Closed system" means any water system or portion of a water system in which water is transferred to a higher pressure zone closed to the atmosphere, such as when no gravity storage is present.

"Coagulant" means a chemical used in water treatment to destabilize particulates and accelerate the rate at which they aggregate into larger particles.

"Coagulation" means a process using coagulant chemicals and rapid mixing to destabilize colloidal and suspended particles and agglomerate them into flocs.

"Combination fire protection system" means a fire sprinkler system that:

Is supplied only by the purveyor's water;

Does not have a fire department pumper connection; and

Is constructed of approved potable water piping and materials that serve both the fire sprinkler system and the consumer's potable water system.

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

"Completely treated water" means water from a surface water source, or a ground water source under the direct influence of surface water (GWI) source that receives filtration or disinfection treatment that fully complies with the treatment technique requirements of Part 6 of this chapter as determined by the department.

"Composite sample" means a sample in which more than one source is sampled individually by the water system and then composited by a certified laboratory by mixing equal parts of water from each source (up to five different sources) and then analyzed as a single sample.

"Comprehensive monitoring plan" means a schedule that describes both the frequency and appropriate locations for sampling of drinking water contaminants as required by state and federal rules.

"Comprehensive performance evaluation (CPE)" means a thorough review and analysis of a treatment plant's performance-based

capabilities and associated administrative, operation and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant's capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. The comprehensive performance evaluation 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.

"Comprehensive technical assistance (CTA)" means technical assistance intended to identify specific steps that may help a water treatment plant overcome operational or design limitations identified during a comprehensive performance evaluation.

"Confirmation" means to demonstrate the accuracy of results of a sample by analyzing another sample from the same location within a reasonable period of time, generally not to exceed two weeks. Confirmation is when analysis results fall within plus or minus thirty percent of the original sample results.

"Confluent growth" means a continuous bacterial growth covering a portion or the entire filtration area of a membrane filter in which bacterial colonies are not discrete.

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

"Construction completion report" means a form provided by the department and completed for each specific construction project to document:

- Project construction in accordance with this chapter and general standards of engineering practice;
- Physical capacity changes; and
- Satisfactory test results.

The completed form must be stamped with an engineer's seal, and signed and dated by a professional engineer.

"Consumer" means any person receiving water from a public water system from either the meter, or the point where the service line connects with the distribution system if no meter is present. For purposes of cross-connection control, "consumer" means the owner or operator of a water system connected to a public water system through a service connection.

"Consumer's water system," as used in WAC 246-290-490, means any potable and/or industrial water system that begins at the point of delivery from the public water system and is located on the consumer's premises. The consumer's water system includes all auxiliary sources of supply, storage, treatment, and distribution facilities, piping, plumbing, and fixtures under the control of the consumer.

"Contaminant" means a substance present in drinking water that may adversely affect the health of the consumer or the aesthetic qualities of the water.

"Contingency plan" means that portion of the wellhead

protection program section of the water system plan or small water system management program that addresses the replacement of the major well(s) or wellfield in the event of loss due to ground water contamination.

"Continuous monitoring" means determining water quality with automatic recording analyzers that operate without interruption twenty-four hours per day.

"Conventional filtration treatment" means a series of processes including coagulation, flocculation, clarification, and filtration that together result in substantial particulate removal in compliance with Part 6 of this chapter.

"Cost-effective" means the benefits exceed the costs.

"Council" means the Washington state building code council under WAC 51-04-015(2).

"Critical water supply service area (CWSSA)" means a geographical area which is characterized by a proliferation of small, inadequate water systems, or by water supply problems which threaten the present or future water quality or reliability of service in a manner that efficient and orderly development may best be achieved through coordinated planning by the water utilities in the area.

"Cross-connection" means any actual or potential physical connection between a public water system or the consumer's water system and any source of nonpotable liquid, solid, or gas that could contaminate the potable water supply by backflow.

"Cross-connection control program" means the administrative and technical procedures the purveyor implements to protect the public water system from contamination via cross-connections as required in WAC 246-290-490.

"Cross-connection control specialist" means a person holding a valid CCS certificate issued under chapter 246-292 WAC.

"Cross-connection control summary report" means the annual report that describes the status of the purveyor's cross-connection control program.

"CT" or **"CTcalc"** means the product of "residual disinfectant concentration" (C) and the corresponding "disinfectant contact time" (T) i.e., "C" x "T."

"CT_{99.9}" means the CT value required for 99.9 percent (3 log) inactivation of *Giardia lamblia* cysts.

"CTreq" means the CT value a system shall provide to achieve a specific percent inactivation of *Giardia lamblia* cysts or other pathogenic organisms of health concern as directed by the department.

"Curtailment" means short-term, infrequent actions by a purveyor and its consumers to reduce their water use during or in anticipation of a water shortage.

"Dead storage" means the volume of stored water not available to all consumers at the minimum design pressure under WAC 246-290-230 (5) and (6).

"Demand forecast" means an estimate of future water system water supply needs assuming historically normal weather conditions

and calculated using numerous parameters, including population, historic water use, local land use plans, water rates and their impacts on consumption, employment, projected water use efficiency savings from implementation of a water use efficiency program, and other appropriate factors.

"Department" means the Washington state department of health or health officer as identified in a joint plan of operation under WAC 246-290-030(1).

"Design and construction standards" means department design guidance and other peer reviewed documents generally accepted by the engineering profession as containing fundamental criteria for design and construction of water facility projects. Design and construction standards are comprised of performance and sizing criteria and reference general construction materials and methods.

"Diatomaceous earth filtration" means a filtration process for substantial removal of particulates ($> 2 \log$ *Giardia lamblia* cysts) in which:

A precoat cake of graded diatomaceous earth filter media is deposited on a support membrane (septum); and

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

"Direct filtration" means a series of processes including coagulation, flocculation, and filtration (but excluding sedimentation) that together result in substantial particulate removal in compliance with Part 6 of this chapter.

"Direct service connection" means a service hookup to a property that is contiguous to a water distribution main and where additional distribution mains or extensions are not needed to provide service.

"Disinfectant contact time (T in CT)" means: When measuring the first or only C, the time in minutes it takes water to move from the point of disinfectant application to a point where the C is measured; and

For subsequent measurements of C, the time in minutes it takes water to move from one C measurement point to the C measurement point for which the particular T is being calculated.

"Disinfection" means the use of chlorine or other agent or process the department approves for killing or inactivating microbiological organisms, including pathogenic and indicator organisms.

"Disinfection profile" means a summary of *Giardia lamblia* inactivation through a surface water treatment plant.

"Distribution coliform sample" means a sample of water collected from a representative location in the distribution system at or after the first service and analyzed for coliform presence in compliance with this chapter.

"Distribution-related projects" means distribution projects such as storage tanks, booster pump facilities, transmission mains, pipe linings, and tank coating. It does not mean source of supply (including interties) or water quality treatment projects.

"Distribution system" means all piping components of a public

water system that serve to convey water from transmission mains linked to source, storage and treatment facilities to the consumer excluding individual services.

"Domestic or other nondistribution system plumbing problem," means contamination of a system having more than one service connection with the contamination limited to the specific service connection from which the sample was taken.

"Dual sample set" means a set of two samples collected at the same time and same location, with one sample analyzed for TTHM and the other sample analyzed for HAA5. Dual sample sets are collected for the purposes of conducting an IDSE under WAC 246-290-300 (6) (b) (i) (F) and determining compliance with the TTHM and HAA5 MCLs under WAC 246-290-310(4).

"Duplicate (verification) sample" means a second sample collected at the same time and location as the first sample and used for verification.

"Elected governing board" means the elected officers with ultimate legal responsibility for operational, technical, managerial, and financial decisions for a public water system.

"Emergency" means an unforeseen event that causes damage or disrupts normal operations and requires immediate action to protect public health and safety.

"Emergency source" means any source that is approved by the department for emergency purposes only, is not used for routine or seasonal water demands, is physically disconnected, and is identified in the purveyor's emergency response plan.

"Engineering design review report" means a form provided by the department and completed for a specific distribution-related project to document:

- Engineering review of a project report and/or construction documents under the submittal exception process in WAC 246-290-125(3); and
- Design in accordance with this chapter and general standards of engineering practice.

The completed form must be stamped with engineer's seal, and signed and dated by a professional engineer.

"Equalizing storage" means the volume of storage needed to supplement supply to consumers when the peak hourly demand exceeds the total source pumping capacity.

"Equivalent residential unit (ERU)" means a system-specific unit of measure used to express the amount of water consumed by a typical full-time single family residence.

"Existing service area" means a specific area within which direct service or retail service connections to customers of a public water system are currently available.

"Expanding public water system" means a public water system installing additions, extensions, changes, or alterations to their existing source, transmission, storage, or distribution facilities that will enable the system to increase in size its existing service area and/or its number of approved service connections. Exceptions:

A system that connects new approved individual retail or

direct service connections onto an existing distribution system within an existing service area; or

A distribution system extension in an existing service area identified in a current and approved water system plan or project report.

"Filter profile" means a graphical representation of individual filter performance in a direct or conventional surface water filtration plant, 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.

"Filtration" means a process for removal of particulate matter from water by passage through porous media.

"Financial viability" means the capability of a water system to obtain sufficient funds to construct, operate, maintain, and manage a public water system, on a continuing basis, in full compliance with federal, state, and local requirements.

"Finished water" means water introduced into a public water system's distribution system and is intended for distribution and consumption without further treatment, except as treatment necessary to maintain water quality in the distribution system (e.g., booster disinfection, addition of corrosion control chemicals).

"Finished water storage facility" means a water storage structure that is integrated with a water system's distribution network to provide for variable system demands including, but not limited to, daily equalizing storage, standby storage, or fire reserves, or to provide for disinfectant contact time.

"Fire flow" means the maximum rate and duration of water flow needed to suppress a fire under WAC 246-293-640 or as required under local fire protection authority standards.

"Fire suppression storage" means the volume of stored water available during fire suppression activities to satisfy minimum pressure requirements per WAC 246-290-230.

"First consumer" means the first service connection associated with any source (i.e., the point where water is first withdrawn for human consumption, excluding connections where water is delivered to another water system covered by these regulations).

"Flocculation" means a process enhancing agglomeration and collection of colloidal and suspended particles into larger, more easily settleable or filterable particles by gentle stirring.

"Flowing stream" means a course of running water flowing in a definite channel.

"Flow-through fire protection system" means a fire sprinkler system that:

Is supplied only by the purveyor's water;

Does not have a fire department pumper connection;

Is constructed of approved potable water piping and materials to which sprinkler heads are attached; and

Terminates at a connection to a toilet or other plumbing fixture to prevent stagnant water.

"Forecasted demand characteristics" means the factors that may

affect a public water system's projected water needs.

"Future service area" means a specific area a public water system plans to provide water service. This is determined by a written agreement between purveyors under WAC 246-293-250 or by the purveyor's elected governing board or governing body if not required under WAC 246-293-250.

"GAC10" means granular activated carbon filter beds with an empty-bed contact time of ten minutes based on average daily flow and a carbon reactivation frequency of every one hundred eighty days, except that the reactivation frequency for GAC10 used as a best available technology for compliance with MCLs under WAC 246-290-310(4) shall be one hundred twenty days.

"GAC20" means granular activated carbon filter beds with an empty-bed contact time of twenty minutes based on average daily flow and a carbon reactivation frequency of every two hundred forty days.

"Governing body" means the individual or group of individuals with ultimate legal responsibility for operational, technical, managerial, and financial decisions for a public water system.

"Grab sample" means a water quality sample collected at a specific instant in time and analyzed as an individual sample.

"Ground water under the direct influence of surface water (GWI)" means any water beneath the surface of the ground that the department determines has the following characteristics:

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 closely correlating to climatological or surface water conditions where natural conditions cannot prevent the introduction of surface water pathogens into the source at the system's point of withdrawal.

"Guideline" means a department document assisting the purveyor in meeting a rule requirement.

"Health officer" means the health officer of the city, county, city-county health department or district, or an authorized representative.

"Heterotrophic Plate Count (HPC)" means a procedure to measure a class of bacteria that use organic nutrients for growth. The density of these bacteria in drinking water is measured as colony forming units per milliliter and is referred to as the HPC.

"High health cross-connection hazard" means a cross-connection involving any substance that could impair the quality of potable water and create an actual public health hazard through injury, poisoning, or spread of disease.

"Human consumption" means the use of water for drinking, bathing or showering, hand washing, food preparation, cooking, or oral hygiene.

"Hydraulic analysis" means the study of a water system's distribution main and storage network to determine present or future adequacy for provision of service to consumers within the

established design parameters for the system under peak flow conditions, including fire flow. The analysis is used to establish any need for improvements to existing systems or to substantiate adequacy of design for distribution system components such as piping, elevated storage, booster stations or similar facilities used to pump and convey water to consumers.

"Inactivation" means a process which renders pathogenic microorganisms incapable of producing disease.

"Inactivation ratio" means the ratio obtained by dividing CT_{calc} by CT_{req} .

"Incompletely treated water" means water from a surface or GWI source that receives filtration and/or disinfection treatment that does not fully comply with the treatment technique requirements of Part 6 of this chapter as determined by the department.

"In-line filtration" means a series of processes, including coagulation and filtration (but excluding flocculation and sedimentation) that together result in particulate removal.

"In-premises protection" means a method of protecting the health of consumers served by the consumer's potable water system, located within the property lines of the consumer's premises by the installation of an approved air gap or backflow prevention assembly at the point of hazard, which is generally a plumbing fixture.

"Intertie" means an interconnection between public water systems permitting the exchange or delivery of water between those systems.

"Lake or reservoir" means a natural or man-made basin or hollow on the earth's surface in which water collects or is stored that may or may not have a current or single direction of flow.

"Legionella" means a genus of bacteria containing species which cause a type of pneumonia called Legionnaires' Disease.

"Limited alternative to filtration" means a process that ensures greater removal and/or inactivation efficiencies of pathogenic organisms than would be achieved by the combination of filtration and chlorine disinfection.

"Local plans and regulations" means any comprehensive plan or development regulation adopted under chapter 36.70A RCW or any other applicable comprehensive plan, land use plan, or development regulation adopted by a city, town, or county for the applicable service area.

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

"Low cross-connection hazard" means a cross-connection that could impair the quality of potable water to a degree that does not create a hazard to the public health, but does adversely and unreasonably affect the aesthetic qualities of potable waters for domestic use.

"Major project" means all construction projects subject to the State Environmental Policy Act (SEPA) under WAC 246-03-030 (3) (a) and include all surface water source development, all water system storage facilities greater than one-half million gallons, new transmission lines longer than one thousand feet and larger than

eight inches in diameter located in new rights of way and major extensions to existing water distribution systems involving use of pipes greater than eight inches in diameter, that are designed to increase the existing service area by more than one square mile.

"Mandatory curtailment" means curtailment required by a public water system of specified water uses and consumer classes for a specified period of time.

"Marginal costs" means the costs incurred by producing the next increment of supply.

"Maximum contaminant level (MCL)" means the maximum permissible level of a contaminant in water the purveyor delivers to any public water system user, measured at the locations identified under WAC 246-290-300, Table 3.

"Maximum contaminant level violation" means a confirmed measurement above the MCL and for a duration of time, where applicable, as outlined under WAC 246-290-310.

"Maximum day demand (MDD)" means the highest actual or estimated quantity of water that is, or is expected to be, used over a twenty-four hour period, excluding unusual events or emergencies. MDD is typically expressed as gallons per day per ERU (gpd/ERU).

"Membrane filtration" means a pressure or vacuum driven separation process in which particulate matter larger than 1 micrometer is rejected by an engineered barrier, primarily through a size-exclusion mechanism, and which has a measurable removal efficiency of a target organism that can be verified through the application of a direct integrity test. This definition includes the common membrane technologies of microfiltration, ultrafiltration, nanofiltration, and reverse osmosis.

"Monitoring waiver" means an action taken by the department under WAC 246-290-300 (4)(g) or (8)(f) to allow a water system to reduce specific monitoring requirements based on a determination of low source vulnerability to contamination.

"Municipal water supplier" means an entity that supplies water for municipal water supply purposes.

"Municipal water supply purposes" means a beneficial use of water:

(a) For residential purposes through fifteen or more residential service connections or for providing residential use of water for a nonresidential population that is, on average, at least twenty-five people for at least sixty days a year;

(b) For governmental or governmental proprietary purposes by a city, town, public utility, district, county, sewer district, or water district; or

(c) Indirectly for the purposes in (a) or (b) of this definition through the delivery of treated or raw water to a public water system for such use.

(i) If water is beneficially used under a water right for the purposes listed in (a), (b), or (c) of this definition, any other beneficial use of water under the right generally associated with the use of water within a municipality is also for "municipal water supply purposes," including, but not limited to, beneficial use for

commercial, industrial, irrigation of parks and open spaces, institutional, landscaping, fire flow, water system maintenance and repair, or related purposes.

(ii) If a governmental entity holds a water right that is for the purposes listed in (a), (b), or (c) of this definition, its use of water or its delivery of water for any other beneficial use generally associated with the use of water within a municipality is also for "municipal water supply purposes," including, but not limited to, beneficial use for commercial, industrial, irrigation of parks and open spaces, institutional, landscaping, fire flow, water system maintenance and repair, or related purposes.

"Nested storage" means one component of storage is contained within the component of another.

"Nonacute" means posing a possible or less than immediate risk to human health.

"Nonresident" means a person having access to drinking water from a public water system, but who lives elsewhere. Examples include travelers, transients, employees, students, etc.

"Normal operating conditions" means those conditions associated with the designed, day-to-day provision of potable drinking water that meets regulatory water quality standards and the routine service expectations of the system's consumers at all times, including meeting fire flow demands. Operation under conditions such as power outages, floods, or unscheduled transmission or distribution disruptions, even if considered in the system design, are considered abnormal.

"Operational storage" means the volume of distribution storage associated with source or booster pump normal cycling times under normal operating conditions and is additive to the equalizing and standby storage components, and to fire flow storage if this storage component exists for any given tank.

"Peak hourly demand (PHD)" means the maximum rate of water use, excluding fire flow, that can be expected to occur within a defined service area over a continuous sixty minute time period. PHD is typically expressed in gallons per minute (gpm).

"Peak hourly flow" means, for the purpose of CT calculations, the greatest volume of water passing through the system during any one hour in a day.

"Performance criteria" means the level at which a system shall operate in order to maintain system reliability compliance, in accordance with WAC 246-290-420, and to meet consumers' reasonable expectations.

"Permanent residence" means any dwelling that is, or could reasonably be expected to be, occupied on a continuous basis.

"Permanent source" means a public water system supply source that is used regularly each year, and based on expected operational requirements of the system, will be used more than three consecutive months in any twelve-month period. For seasonal water systems that are in operation for less than three consecutive months per year, their sources shall also be considered to be permanent.

"Plant intake" means the works or structures at the head of a

conduit through which water is diverted from a source (e.g., river or lake) into the treatment plant.

"Point of disinfectant application" means the point where the disinfectant is added, and where water downstream of that point is not subject to contamination by untreated surface water.

"Population served" means the number of persons, resident and nonresident, having immediate access to drinking water from a public water system, whether or not persons have actually consumed water from that system. The number of nonresidents shall be the average number of persons having immediate access to drinking water on days access was provided during that month. In the absence of specific population data, the number of residents shall be computed by multiplying the number of active services by two and one-half.

"Potable" means water suitable for drinking by the public.

"Potential GWI" means a source identified by the department as possibly under the influence of surface water, and includes, but is not limited to, all wells with a screened interval fifty feet or less from the ground surface at the wellhead and located within two hundred feet of a surface water, and all Ranney wells, infiltration galleries, and springs.

"Premises isolation" means a method of protecting a public water system by installation of approved air gaps or approved backflow prevention assemblies at or near the service connection or alternative location acceptable to the purveyor to isolate the consumer's water system from the purveyor's distribution system.

"Presedimentation" means a preliminary treatment process used to remove gravel, sand, and other particulate material from the source water through settling before the water enters the primary clarification and filtration processes in a treatment plant.

"Pressure filter" means an enclosed vessel containing properly sized and graded granular media through which water is forced under greater than atmospheric pressure.

"Primary disinfection" means a treatment process for achieving inactivation of *Giardia lamblia* cysts, viruses, or other pathogenic organisms of public health concern to comply with the treatment technique requirements of Part 6 of this chapter.

"Primary standards" means standards based on chronic, nonacute, or acute human health effects.

"Primary turbidity standard" means an accurately prepared formazin solution or commercially prepared polymer solution of known turbidity (prepared in accordance with "standard methods") that is used to calibrate bench model and continuous turbidimeters (instruments used to measure turbidity).

"Project approval application (PAA)" means a department form documenting ownership of water system, design engineer for the project, and type of project.

"Protected ground water source" means a ground water source the purveyor shows to the department's satisfaction as protected from potential sources of contamination on the basis of hydrogeologic data and/or satisfactory water quality history.

"Public forum" means a meeting open to the general public that allows for their participation.

"Public water system" is defined and referenced under WAC 246-290-020.

"Purchased source" means water a purveyor purchases from a public water system not under the control of the purveyor for distribution to the purveyor's consumers.

"Purveyor" means an agency, subdivision of the state, municipal corporation, firm, company, mutual or cooperative association, institution, partnership, or person or other entity owning or operating a public water system. Purveyor also means the authorized agents of these entities.

"Reclaimed water" means effluent derived in any part from sewage from a wastewater treatment system that has been adequately and reliably treated, so that as a result of that treatment, it is suitable for beneficial use or a controlled use that would not otherwise occur, and it is no longer considered wastewater.

"Record drawings" means the drawings bearing the seal and signature of a professional engineer that reflect the modifications made to construction documents, documenting actual constructed conditions of the water system facilities.

"Recreational tract" means an area that is clearly defined for each occupant, but has no permanent structures with internal plumbing, and the area has been declared in the covenants or on the recorded plat in order to be eligible for reduced design considerations.

"Regional public water supplier" means a water system that provides drinking water to one, or more, other public water systems.

"Regularly" means four hours or more per day for four days or more per week.

"Removal credit" means the level (expressed as a percent or log) of *Giardia* and virus removal the department grants a system's filtration process.

"Repeat sample" means a sample collected to confirm the results of a previous analysis.

"Resident" means an individual living in a dwelling unit served by a public water system.

"Residual disinfectant concentration" means the analytical level of a disinfectant, measured in milligrams per liter, that remains in water following the application (dosing) of the disinfectant after some period of contact time.

"Retail service area" means the specific area defined by the municipal water supplier where the municipal water supplier has a duty to provide service to all new service connections. This area must include the municipal water supplier's existing service area and may also include areas where future water service is planned if the requirements of RCW 43.20.260 are met.

"Same farm" means a parcel of land or series of parcels that are connected by covenants and devoted to the production of livestock or agricultural commodities for commercial purposes and does not qualify as a **Group A** public water system.

"Sanitary survey" means a review, inspection, and assessment

of a public water system by the department or department designee including, but not limited to: Source, facilities, equipment, administration and operation, maintenance procedures, monitoring, recordkeeping, planning documents and schedules, and management practices. The purpose of the survey is to evaluate the adequacy of the water system for producing and distributing safe and adequate drinking water.

"Satellite management agency (SMA)" means a person or entity that is approved by the department to own or operate public water systems on a regional or county-wide basis without the necessity for a physical connection between the systems.

"Seasonal source" means a public water system source used on a regular basis, that is not a permanent or emergency source.

"Secondary standards" means standards based on factors other than health effects.

"Service area" means the specific area or areas a water system currently serves or plans to provide water service. This may be comprised of the existing service area, retail service area, future service area, and include areas where water is provided to other public water systems.

"Service connection" means a connection to a public water system designed to provide potable water to a single family residence, or other residential or nonresidential population. When the connection provides water to a residential population without clearly defined single family residences, the following formulas shall be used in determining the number of services to be included as residential connections on the WFI form:

Divide the average population served each day by two and one-half; or

Using actual water use data, calculate the total ERUs represented by the service connection in accordance with department design guidance.

In no case shall the calculated number of services be less than one.

"Severe health cross-connection hazard" means a cross-connection which could impair the quality of potable water and create an immediate, severe public health hazard through poisoning or spread of disease by contaminants from radioactive material processing plants, nuclear reactors, or wastewater treatment plants.

"Significant noncomplier" means a system that is violating or has violated department rules, and the violations may create, or have created an imminent or a significant risk to human health. The violations include, but are not limited to, repeated violations of monitoring requirements, failure to address an exceedance of permissible levels of regulated contaminants, or failure to comply with treatment technique standards or requirements.

"Simple disinfection" means any form of disinfection that requires minimal operational control in order to maintain the disinfection at proper functional levels, and that does not pose safety concerns that would require special care, equipment, or expertise. Examples include hypochlorination, UV-light, contactor

chlorination, or any other form of disinfection practice that is safe to use and easy to routinely operate and maintain.

"Slow sand filtration" means a process involving passage of source water through a bed of sand at low velocity (generally less than 0.10 gpm/ft²) that results in substantial particulate removal (> 2 log *Giardia lamblia* cysts) by physical and biological mechanisms.

"Societal perspective" means a point of view that includes a broad spectrum of public benefits, including, but not limited to, enhanced system reliability; savings that result from delaying, deferring, or minimizing capital costs; and environmental benefits such as increased water in streams, improvements in aquifer recharge and other environmental factors.

"Source meter" means a meter that measures total output of a water source over specific time periods.

"Source water" means untreated water that is not subject to recontamination by surface runoff and:

For unfiltered systems, enters the system immediately before the first point of disinfectant application; and

For filtered systems, enters immediately before the first treatment unit of a water treatment facility.

"Special purpose investigation (SPI)" means on-site inspection of a public water system by the department or designee to address a potential public health concern, regulatory violation, or consumer complaint.

"Special purpose sample" means a sample collected for reasons other than the monitoring compliance specified in this chapter.

"Spring" means a source of water where an aquifer comes in contact with the ground surface.

"Standard methods" means the book, titled *Standard Methods for the Examination of Water and Waste Water*, jointly published by the American Public Health Association, American Water Works Association (AWWA), and Water Pollution Control Federation. This book is available through public libraries or may be ordered from AWWA, 6666 West Quincy Avenue, Denver, Colorado 80235. The edition to be used is that specified by EPA for the relevant drinking water parameter in 40 CFR Part 141.

"Standby storage" means the volume of stored water available for use during a loss of source capacity, power, or similar short-term emergency.

"State advisory level (SAL)" means a level established by the department and state board of health for a contaminant without an existing MCL. The SAL represents a level that when exceeded, indicates the need for further assessment to determine if the chemical is an actual or potential threat to human health.

"State board of health" and **"board"** means the board created by RCW 43.20.030.

"State building code" means the codes adopted by and referenced in chapter 19.27 RCW; the state energy code; and any other codes so designated by the Washington state legislature as adopted and amended by the council.

"State revolving fund (SRF)" means the revolving loan program

financed by the state and federal governments and managed by the state for the purpose of assisting water systems to meet their capital needs associated with complying with the federal Safe Drinking Water Act under chapter 246-296 WAC.

"Subpart H System" see definition for **"surface water system."**

"Surface water" means a body of water open to the atmosphere and subject to surface runoff.

"Surface water system" means a public water system that uses in whole, or in part, source water from a surface supply, or GWI supply. This includes systems that operate surface water treatment facilities, and systems that purchase "completely treated water" (as defined in this subsection). A "surface water system" is also referred to as a "Subpart H System" in some federal regulatory language adopted by reference and the two terms are considered equivalent for the purposes of this chapter.

"Susceptibility assessment" means the completed Susceptibility Assessment Survey Form developed by the department to evaluate the hydrologic setting of the water source and assess its contribution to the source's overall susceptibility to contamination from surface activities.

"Synthetic organic chemical (SOC)" means a manufactured carbon-based chemical.

"System capacity" means the system's operational, technical, managerial, and financial capability to achieve and maintain compliance with all relevant local, state, and federal plans and regulations.

"System physical capacity" means the maximum number of service connections or equivalent residential units (ERUs) that the system can serve when considering the limitation of each system component such as source, treatment, storage, transmission, or distribution, individually and in combination with each other.

"Time-of-travel" means the time required for ground water to move through the water bearing zone from a specific point to a well.

"Too numerous to count (TNTC)" means the total number of bacterial colonies exceeds 200 on a 47-mm diameter membrane filter used for coliform detection.

"Tracer study" means a field study conducted to determine the disinfectant contact time, T, provided by a water system component, such as a clearwell or storage reservoir, used for *Giardia lamblia* cyst and virus inactivation. The study involves introducing a tracer chemical at the inlet of the contact basin and measuring the resulting outlet tracer concentration as a function of time.

"Transmission line" means pipes used to convey water from source, storage, or treatment facilities to points of distribution or distribution mains, and from source facilities to treatment or storage facilities. This also can include transmission mains connecting one section of distribution system to another section of distribution system as long as this transmission main is clearly defined on the plans and no service connections are allowed along the transmission main.

"Treatment technique requirement" means a department-

established requirement for a public water system to provide treatment, such as filtration or disinfection, as defined by specific design, operating, and monitoring requirements. A "treatment technique requirement" is established in lieu of a primary MCL when monitoring for the contaminant is not economically or technologically feasible.

"Trihalomethane (THM)" means one of a family of organic compounds, named as derivatives of methane, where three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure. THMs may occur when chlorine, a halogen, is added to water containing organic material and are generally found in water samples as disinfection (~~(by-products)~~) byproducts.

"Turbidity event" means a single day or series of consecutive days, not to exceed fourteen, when one or more turbidity measurement each day exceeds 5 NTU.

"Two-stage lime softening" means a process in which chemical addition and hardness precipitation occur in each of two distinct unit clarification processes in series prior to filtration.

"T10" means the time it takes ten percent of the water passing through a system contact tank intended for use in the inactivation of *Giardia lamblia* cysts, viruses, and other microorganisms of public health concern, as determined from a tracer study conducted at peak hourly flow or from published engineering reports or guidance documents for similarly configured tanks.

"Unapproved auxiliary water supply" means a water supply (other than the purveyor's water supply) on or available to the consumer's premises that is either not approved for human consumption by the health agency having jurisdiction or is not otherwise acceptable to the purveyor.

"Uncovered finished water storage facility" means a tank, reservoir, or other facility used to store water, which will undergo no further treatment to reduce microbial pathogens except residual disinfection and is directly open to the atmosphere without a suitable water-tight roof or cover.

"Uniform Plumbing Code" means the code adopted under RCW 19.27.031(4) and implemented under chapter 51-56 WAC. This code establishes statewide minimum plumbing standards applicable within the property lines of the consumer's premises.

"Used water" means water which has left the control of the purveyor.

"Verification" means to demonstrate the results of a sample to be precise by analyzing a duplicate sample. Verification occurs when analysis results fall within plus or minus thirty percent of the original sample.

"Virus" means a virus of fecal origin which is infectious to humans and transmitted through water.

"Volatile organic chemical (VOC)" means a manufactured carbon-based chemical that vaporizes quickly at standard pressure and temperature.

"Voluntary curtailment" means a curtailment of water use requested, but not required of consumers.

"Waterborne disease outbreak" means the significant occurrence

of acute infectious illness, epidemiologically associated with drinking water from a public water system, as determined by the appropriate local health agency or the department.

"Water demand efficiency" means minimizing water use by the public water system's consumers through purveyor sponsored activities that may include, but are not limited to distributing water saving devices, providing rebates or incentives to promote water efficient technologies or by providing water audits to homes, businesses, or landscapes.

"Water facilities inventory (WFI) form" means the department form summarizing each public water system's characteristics.

"Water right" means a permit, claim, or other authorization, on record with or accepted by the department of ecology, authorizing the beneficial use of water in accordance with all applicable state laws.

"Water right self-assessment" means an evaluation of the legal ability of a water system to use water for existing or proposed usages in conformance with state water right laws. The assessment may be done by a water system, a purveyor, the department of ecology, or any combination thereof.

"Watershed" means the region or area that:

Ultimately drains into a surface water source diverted for drinking water supply; and

Affects the physical, chemical, microbiological, and radiological quality of the source.

"Water shortage" means a situation during which the water supplies of a system cannot meet normal water demands for the system, including peak periods.

"Water shortage response plan" means a plan outlining policies and activities to be implemented to reduce water use on a short-term basis during or in anticipation of a water shortage.

"Water supply characteristics" means the factors related to a public water system's source of water supply that may affect its availability and suitability to provide for both short-term and long-term needs. Factors include, but are not limited to, source location, name of any body of water and water resource inventory area from which water is diverted or withdrawn, production capacity, the source's natural variability, the system's water rights for the source, and other legal demands on the source such as water rights for other uses, conditions established to protect species listed under the Endangered Species Act in 50 CFR 17.11; instream flow restrictions established under Title 173 WAC, and any conditions established by watershed plans approved under chapter 90.82 RCW and RCW 90.54.040(1) or salmon recovery plans under chapter 77.85 RCW.

"Water supply efficiency" means increasing a public water system's transmission, storage and delivery potential through activities that may include, but are not limited to system-wide water audits, documenting authorized uses, conducting leak surveys and repairs on meters, lines, storage facilities, and valves.

"Water use efficiency (WUE)" means increasing water supply efficiency and water demand efficiency to minimize water

withdrawals and water use.

"Water use efficiency program" means policies and activities focusing on increasing water supply efficiency and water demand efficiency to minimize water withdrawals and water use.

"Well field" means a group of wells one purveyor owns or controls that:

Draw from the same aquifer or aquifers as determined by comparable inorganic chemical analysis and comparable static water level and top of the open interval elevations; and

Discharge water through a common pipe and the common pipe shall allow for collection of a single sample before the first distribution system connection.

"Wellhead protection area (WHPA)" means the portion of a well's, wellfield's or spring's zone of contribution defined using WHPA criteria established by the department.

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

"Zone of contribution" means the area surrounding a pumping well or spring that encompasses all areas or features that supply ground water recharge to the well or spring.

AMENDATORY SECTION (Amending WSR 08-03-061, filed 1/14/08, effective 2/14/08)

WAC 246-290-025 Adoption by reference. The following sections and subsections of Title 40 Code of Federal Regulations (CFR) Part 141 National Primary Drinking Water Regulations revised as of July 1, 2007, and including all amendments and modifications thereto effective as of the date of adoption of this chapter are adopted by reference:

141.2 Definitions. Only those definitions listed as follows:

- Action level;
- Corrosion inhibitor;
- Effective corrosion inhibitor residual;
- Enhanced coagulation;
- Enhanced softening;
- ~~((Granular activated carbon (GAC10);))~~
- Haloacetic acids (five) (HAA5);
- First draw sample;
- Large water system;
- Lead service line;
- Maximum residual disinfectant level (MRDL);
- Maximum residual disinfectant level goal (MRDLG);

Medium-size water system;
 Optimal corrosion control treatment;
 Service line sample;
 Single family structure;
 Small water system;
 Specific ultraviolet absorption (SUVA); and
 Total Organic Carbon (TOC).

141.12 Maximum contaminant levels for organic chemicals.

141.13 Maximum contaminant levels for turbidity.

141.21 Coliform monitoring.

141.22 Turbidity sampling and analytical requirements.

141.23(a) - 141.23(j), Inorganic chemical sampling.
 excluding (i)(2)

141.23(m) - 141.23(o)

141.24(a) - 141.24(d), Organic chemicals other than total trihalomethanes.

141.24 (f)(1) - 141.24 (f)(15),
 141.24 (f)(18), 141.24 (f)(19),
 141.24 (f)(21), 141.24 (f)(22)
 141.24 (g)(1) - 141.24 (g)(9),
 141.24 (g)(12) - 141.24 (g)(14),
 141.24 (h)(1) - 141.24 (h)(11),
 141.24 (h)(14) - 141.24 (h)(17)
 141.24 (h)(20)

141.25(a), 141.25 (c) - (d), Analytical methods for radioactivity.

141.26 Monitoring frequency and compliance for radioactivity in community water systems.

141.31(d) Reporting of public notices and compliance certifications.

141.33(e) Record maintenance of public notices and certifications.

141.40 Requirements for unregulated contaminants.

141.61 Maximum contaminant levels for organic contaminants.

141.62, Maximum contaminant levels for inorganic
 excluding (b) chemical and physical contaminants.

~~((141.64(c) Best Available Technologies (BATs) for Disinfection By-Products:))~~

141.64 Maximum contaminant levels and Best Available Technologies (BATs) for disinfection byproducts.

141.65(c) Best Available Technologies (BATs) for Maximum Residual Disinfectant Levels.

141.66 Maximum contaminant levels for radionuclides.

Control of Lead and Copper

- 141.80 General requirements.
- 141.81 Applicability of corrosion control treatment steps to small, medium-size and large water systems.
- 141.82(a) - 141.82(h) Description of corrosion control treatment requirements.
- 141.83 Source water treatment requirements.
- 141.84 Lead service line replacement requirements.
- 141.85 Public education and supplemental monitoring requirements.
- 141.86 (a) - (f) Monitoring requirements for lead and copper in tap water.
- 141.87 Monitoring requirements for water quality parameters.
- 141.88 Monitoring requirements for lead and copper in source water.
- 141.89 Analytical methods for lead and copper testing.
- 141.90, Reporting requirements.
excluding
(a)(4)
- 141.91 Recordkeeping requirements.

Disinfectants and Disinfection (~~(By-Products)~~ Byproducts (D/DBP))

- 141.130 General requirements.
- 141.131 Analytical requirements.
- 141.132 Monitoring requirements.
- 141.133 Compliance.
- 141.134 Reporting and recordkeeping.
- 141.135 Treatment technique for control of disinfection (~~(by-product)~~ byproduct precursors).

Enhanced Filtration - Reporting and Recordkeeping

- 141.175(b) Individual filter reporting and follow-up action requirements for systems treating surface water with conventional, direct, or in-line filtration and serving at least 10,000 people.

Subpart Q - Public Notification

- 141.201, General public notification requirements.
excluding
(3)(ii) of
Table 1
- 141.202, Tier 1 Public Notice - Form, manner, and
excluding frequency of notice.
(3) of Table 1
- 141.203 Tier 2 Public Notice - Form, manner, and
frequency of notice.
- 141.204 Tier 3 Public Notice - Form, manner, and
frequency of notice.

- 141.205 Content of the public notice.
- 141.206 Notice to new billing units or new customers.
- 141.207 Special notice of the availability of unregulated contaminant monitoring results.
- 141.208 Special notice for exceedances of the SMCL for fluoride.
- 141.211 Special notice for *Cryptosporidium* monitoring failure.

Appendix A - NPDWR violations and situations requiring PN

Appendix B - Standard health effects language for PN

Subpart T - Enhanced Filtration and Disinfection - Systems Serving Fewer Than 10,000 People

141.530 - Disinfection profile and benchmark.

141.544

141.563 Follow-up actions required.

141.570, Reporting requirements.

excluding (c)

Subpart U and V - Initial Distribution System Evaluations and Stage 2 Disinfection Byproducts Requirements.

141.600 - Initial distribution system evaluations.

141.605

141.620 - Stage 2 Disinfection Byproducts

141.629 Requirements.

Subpart W - Enhanced Treatment for *Cryptosporidium*

141.700-722 Enhanced Treatment for *Cryptosporidium*

Part 143 - National Secondary Drinking Water Regulations

143.1 Purpose.

143.2 Definitions.

143.3 Secondary maximum contaminant levels.

143.4 Monitoring.

Copies of the incorporated sections and subsections of Title 40 CFR are available from the Department of Health, P.O. Box 47822, Olympia, Washington 98504-7822, or by calling the department's drinking water hotline at 800-521-0323.

AMENDATORY SECTION (Amending WSR 08-03-061, filed 1/14/08, effective 2/14/08)

WAC 246-290-300 Monitoring requirements. (1) General.

(a) The monitoring requirements specified in this section are minimums. The department may require additional monitoring when:

- (i) Contamination is present or suspected in the water system;
- (ii) A ground water source is determined to be a potential

GWI;

- (iii) The degree of source protection is not satisfactory;

(iv) Additional monitoring is needed to verify source vulnerability for a requested monitoring waiver;

(v) Under other circumstances as identified in a department order; or

(vi) Additional monitoring is needed to evaluate continuing effectiveness of a treatment process where problems with the treatment process may exist.

(b) Special purpose samples collected by the purveyor shall not count toward fulfillment of the monitoring requirements of this chapter unless the quality of data and method of sampling and analysis are acceptable to the department.

(c) The purveyor shall ensure samples required by this chapter are collected, transported, and submitted for analysis according to EPA-approved methods. The analyses shall be performed by a laboratory accredited by the state. Qualified water utility, accredited laboratory, health department personnel, and other parties approved by the department may conduct measurements for pH, temperature, residual disinfectant concentration, alkalinity, bromide, chlorite, TOC, SUVA, and turbidity as required by this chapter, provided, these measurements are made in accordance with EPA approved methods.

(d) Compliance samples required by this chapter shall be taken at locations listed in Table 3 of this section.

(e) Purveyors failing to comply with a monitoring requirement shall notify:

(i) The department under WAC 246-290-480; and

(ii) The owner or operator of any consecutive system served and the appropriate water system users under 40 CFR 141.201 and Part 7, Subpart A of this chapter.

(2) Selling and receiving water.

(a) Source monitoring. Purveyors, with the exception of those that "wheel" water to their consumers (i.e., sell water that has passed through another purchasing purveyor's distribution system), shall conduct source monitoring under this chapter for the sources under their control. The level of monitoring shall satisfy the monitoring requirements associated with the total population served by the source.

(b) Distribution system monitoring. The purveyor of a system that receives and distributes water shall perform distribution-related monitoring requirements. Monitoring shall include, but not be limited to, the following:

(i) Collect coliform samples under subsection (3) of this section;

(ii) Collect disinfection (~~(by-product)~~) byproduct samples (~~(if)~~) as required by subsection (6) of this section;

(iii) Perform the distribution system residual disinfectant concentration monitoring under subsection (~~(+7)~~) (6) of this section, and as required under WAC 246-290-451 or 246-290-694. Systems with fewer than one hundred connections shall measure residual disinfectant concentration at the same time and location that a routine or repeat coliform sample is collected, unless the department determines that more frequent monitoring is necessary to

protect public health;

(iv) Perform lead and copper monitoring required under 40 CFR 141.86, 141.87, and 141.88;

(v) Perform the distribution system monitoring under 40 CFR 141.23(b) for asbestos if applicable;

(vi) Other monitoring as required by the department.

(c) Reduced monitoring for regional programs. The receiving purveyor may receive reductions in the coliform, lead and copper, disinfection (~~(by-product)~~) byproduct (including THMs and HAA5) and distribution system disinfectant residual concentration monitoring requirements, provided the receiving system:

(i) Purchases water from a purveyor that has a department-approved regional monitoring program; (~~and~~)

(ii) Has a written agreement with the supplying system or regional water supplier that is acceptable to the department, and which identifies the responsibilities of both the supplying and receiving system(s) with regards to monitoring, reporting and maintenance of the distribution system; and

(iii) Has at least one compliance monitoring location for disinfection byproducts, if applicable.

(d) Periodic review of regional programs. The department may periodically review the sampling records of public water systems participating in a department-approved monitoring program to determine if continued reduced monitoring is appropriate. If the department determines a change in the monitoring requirements of the receiving system is appropriate:

(i) The department shall notify the purveyor of the change in monitoring requirements; and

(ii) The purveyor shall conduct monitoring as directed by the department.

(3) Bacteriological.

(a) The purveyor shall be responsible for collection and submittal of coliform samples from representative points throughout the distribution system. Samples shall be collected after the first service and at regular time intervals each month the system provides water to consumers. Samples shall be collected that represent normal system operating conditions.

(i) Systems providing disinfection treatment shall, when taking a routine or repeat sample, measure residual disinfectant concentration within the distribution system at the same time and location and comply with the residual disinfection monitoring requirements under WAC 246-290-451.

(ii) Systems providing disinfection treatment shall assure that disinfectant residual concentrations are measured and recorded on all coliform sample report forms submitted for compliance purposes.

(b) Coliform monitoring plan.

(i) The purveyor shall prepare a written coliform monitoring plan and base routine monitoring upon the plan. The plan shall include coliform sample collection sites and a sampling schedule.

(ii) The purveyor shall:

(A) Keep the coliform monitoring plan on file with the system

and make it available to the department for inspection upon request;

(B) Revise or expand the plan at any time the plan no longer ensures representative monitoring of the system, or as directed by the department; and

(C) Submit the plan to the department for review and approval when requested and as part of the water system plan required under WAC 246-290-100.

(c) Monitoring frequency. The number of required routine coliform samples is based on total population served.

(i) Purveyors of **community** systems shall collect and submit for analysis no less than the number of routine samples listed in Table ((2)) 1 during each calendar month of operation;

(ii) Unless directed otherwise by the department, purveyors of **noncommunity** systems shall collect and submit for analysis no less than the number of samples required in Table ((2)) 1, and no less than required under 40 CFR 141.21. Each month's population shall be based on the average daily population and shall include all residents and nonresidents served during that month. During months when the average daily population served is less than twenty-five, routine sample collection is not required when:

(A) Using only protected ground water sources;

(B) No coliform were detected in samples during the previous month; and

(C) One routine sample has been collected and submitted for analysis during one of the previous two months.

(iii) Purveyors of systems serving both a resident and a nonresident population shall base their minimum sampling requirement on the total of monthly populations served, both resident and nonresident as determined by the department, but no less than the minimum required in Table ((2)) 1; and

(iv) Purveyors of systems with a nonresident population lasting two weeks or less during a month shall sample as directed by the department. Sampling shall be initiated at least two weeks prior to the time service is provided to consumers.

(v) Purveyors of TNC systems shall not be required to collect routine samples in months where the population served is zero or the system has notified the department of an unscheduled closure.

(d) Invalid samples. When a coliform sample is determined invalid under WAC 246-290-320 (2) (d), the purveyor shall:

(i) Not include the sample in the determination of monitoring compliance; and

(ii) Take follow-up action as defined in WAC 246-290-320 (2) (d).

(e) The purveyor using a surface water or GWI source shall collect representative source water samples for bacteriological density analysis under WAC 246-290-664 and 246-290-694 as applicable.

TABLE ((2)) 1
MINIMUM MONTHLY ROUTINE COLIFORM
SAMPLING REQUIREMENTS

Population Served ¹	Minimum Number of Routine Samples/Calendar Month	
	When NO samples with a coliform presence were collected during the previous month	When ANY samples with a coliform presence were collected during the previous month
1 - 1,000	1*	5
1,001 - 2,500	2*	5
2,501 - 3,300	3*	5
3,301 - 4,100	4*	5
4,101 - 4,900	5	5
4,901 - 5,800	6	6
5,801 - 6,700	7	7
6,701 - 7,600	8	8
7,601 - 8,500	9	9
8,501 - 12,900	10	10
12,901 - 17,200	15	15
17,201 - 21,500	20	20
21,501 - 25,000	25	25
25,001 - 33,000	30	30
33,001 - 41,000	40	40
41,001 - 50,000	50	50
50,001 - 59,000	60	60
59,001 - 70,000	70	70
70,001 - 83,000	80	80
83,001 - 96,000	90	90
96,001 - 130,000	100	100
130,001 - 220,000	120	120
220,001 - 320,000	150	150
320,001 - 450,000	180	180
450,001 - 600,000	210	210
600,001 - 780,000	240	240
780,001 - 970,000	270	270
970,001 - 1,230,000 ³	300	300

¹ Does not include the population of a consecutive system that purchases water. The sampling requirement for consecutive systems is a separate determination based upon the population of that system.

² Noncommunity systems using only protected ground water sources and serving less than 25 individuals, may collect and submit for analysis, one sample every three months.

³ Systems serving populations larger than 1,230,000 shall contact the department for the minimum number of samples required per month.

*In addition to the provisions of subsection (1)(a) of this section, if a system of this size cannot show evidence of having been subject to a sanitary survey on file with the department, or has been determined to be at risk to bacteriological concerns following a survey, the minimum number of samples required per month may be increased by the department after additional consideration of factors such as monitoring history, compliance record, operational problems, and water quality concerns for the system.

(4) Inorganic chemical and physical.

(a) A complete inorganic chemical and physical analysis shall

consist of the primary and secondary chemical and physical substances.

(i) Primary chemical and physical substances are antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, nitrate (as N), nitrite (as N), selenium, sodium, thallium, and for unfiltered surface water, turbidity. (Except that the MCL for arsenic under WAC 246-290-310 does not apply to TNC systems.)

(ii) Secondary chemical and physical substances are chloride, color, hardness, iron, manganese, specific conductivity, silver, sulfate, total dissolved solids*, and zinc.

* Required only when specific conductivity exceeds seven hundred micromhos/centimeter.

(b) Purveyors shall monitor for all primary and secondary chemical and physical substances identified in Table 4 and Table 5. Samples shall be collected in accordance with the monitoring requirements referenced in 40 CFR 141.23 introductory text, 141.23(a) through 141.23(j), excluding (i)(2), and 40 CFR 143.4, except for composite samples for systems serving less than three thousand three hundred one persons. For these systems, compositing among different systems may be allowed if the systems are owned or operated by a department-approved satellite management agency.

(c) Samples required by this subsection shall be taken at designated locations under 40 CFR 141.23(a) through 141.23(j), excluding (i)(2), and 40 CFR 143.4, and Table 3 herein.

(i) Wellfield samples shall be allowed from department designated wellfields; and

(ii) Under 40 CFR 141.23 (a)(3), alternate sampling locations may be used if approved by the department. The process for determining these alternate sites is described in department guidance. Purveyors of community and NTNC systems may ask the department to approve an alternate sampling location for multiple sources within a single system that are blended prior to entry to the distribution system. Alternate sampling plans shall address the following:

- (A) Source vulnerability;
- (B) Individual source characteristics;
- (C) Previous water quality information;
- (D) Status of monitoring waiver applications; and
- (E) Other information deemed necessary by the department.

(d) Composite samples:

(i) Under 40 CFR 141.23 (a)(4), purveyors may ask the certified lab to composite samples representing as many as five individual samples from within one system. Sampling procedures and protocols are outlined in department guidance; and

(ii) For systems serving a population of less than three thousand three hundred one, the department may approve composite sampling between systems when those systems are part of an approved satellite management agency.

(e) When the purveyor provides treatment for one or more inorganic chemical or physical contaminants, the department may require the purveyor to sample before and after treatment. The department shall notify the purveyor if and when this additional

source sampling is required.

(f) Inorganic monitoring plans.

(i) Purveyors of community and NTNC systems shall prepare an inorganic chemical monitoring plan and base routine monitoring on the plan.

(ii) The purveyor shall:

(A) Keep the monitoring plan on file with the system and make it available to the department for inspection upon request;

(B) Revise or expand the plan at any time the plan no longer reflects the monitoring requirements, procedures or sampling locations, or as directed by the department; and

(C) Submit the plan to the department for review and approval when requested and as part of the water system plan required under WAC 246-290-100.

(g) Monitoring waivers.

(i) Purveyors may request in writing, a monitoring waiver from the department for any nonnitrate/nitrite inorganic chemical and physical monitoring requirements identified in this chapter.

(ii) Purveyors requesting a monitoring waiver shall comply with applicable subsections of 40 CFR 141.23 (b) (3), and 141.23 (c) (3).

(iii) Purveyors shall update and resubmit requests for waiver renewals as applicable during each compliance cycle or period or more frequently as directed by the department.

(iv) Failure to provide complete and accurate information in the waiver application shall be grounds for denial of the monitoring waiver.

(h) The department may require the purveyor to repeat sample for confirmation of results.

(i) Purveyors with emergency and seasonal sources shall monitor those sources when they are in use.

(5) Lead and copper. Monitoring for lead and copper shall be conducted in accordance with 40 CFR 141.86 (a) - (f), 141.87, and 141.88.

(6) Disinfection (~~(by-products)~~) byproducts (DBP), disinfectant residuals, and disinfection (~~(by-product)~~) byproduct precursors (DBPP). Purveyors of community and NTNC systems providing water treated with chemical disinfectants and TNC systems using chlorine dioxide shall monitor as follows:

(a) General requirements.

(i) Systems shall collect samples during normal operating conditions.

(ii) All monitoring shall be conducted in accordance with the analytical requirements in 40 CFR 141.131.

(iii) Systems may consider multiple wells drawing from a single aquifer as one treatment plant for determining the minimum number of TTHM and HAA5 samples required, with department approval in accordance with department guidance.

(iv) Systems required to monitor under this subsection shall prepare and implement a monitoring plan in accordance with 40 CFR 141.132(f) or 40 CFR 141.622, as applicable.

(A) Community and NTNC surface water and GWI systems that

~~((add))~~ deliver water that has been treated with a ((chemical)) disinfectant other than ultraviolet light and serve ((at least ten thousand)) more than three thousand three hundred people shall submit a monitoring plan to the department.

~~(B) ((Community and NTNC surface water systems that add a chemical disinfectant and serve less than ten thousand people, but more than three thousand three hundred people, shall submit a monitoring plan to the department.~~

~~((C))~~ The department may require submittal of a monitoring plan from systems not specified in subsection (6) (a) (iv) (A) ~~((or (B))~~ of this section, and may require revision of any monitoring plan.

~~((D))~~ (C) Failure to monitor will be treated as a violation for the entire period covered by the annual average where compliance is based on a running annual average of monthly or quarterly samples or averages and the systems' failure to monitor makes it impossible to determine compliance with MCL's or MRDL's.

(b) Disinfection ~~((by-products))~~ byproducts - **Community and NTNC** systems only.

(i) TTHMs and HAA5.

(A) Systems shall monitor for TTHM ~~((s))~~ and HAA5 in accordance with 40 CFR 141.132 (b) (1) (i) until the dates set in Table 2. On and after the dates set in Table 2, the systems shall monitor in accordance with 40 CFR 141.620, 141.621, and 141.622.

Table 2

<u>Population Served</u>	<u>Routine Monitoring Start Date¹</u>
<u>100,000 or more</u>	<u>April 1, 2012</u>
<u>50,000 - 99,999</u>	<u>October 1, 2012</u>
<u>10,000 - 49,999</u>	<u>October 1, 2013</u>
<u>Less than 10,000</u>	<u>October 1, 2013²</u>
	<u>October 1, 2014³</u>

¹ Systems that have nonemergency interties with other systems must comply with the dates associated with the largest system in their combined distribution system.

² Surface water and GWI systems that did not have to do *Cryptosporidium* monitoring under 40 CFR 141.701 (a)(4).

³ Surface water and GWI systems that also did *Cryptosporidium* monitoring under 40 CFR 141.701 (a)(4).

(B) With department approval, systems may reduce monitoring in accordance with 40 CFR 141.132 (b) (1) (ii) and (iii), or 40 CFR 141.623, as applicable.

(C) Systems on department-approved reduced monitoring schedules may be required to return to routine monitoring, or initiate increased monitoring in accordance with 40 CFR 141.132 (b) (1) ~~((+iii))~~ (iv), 40 CFR 141.625, or 40 CFR 141.627, as applicable.

(D) The department may return systems on increased monitoring to routine monitoring if, after one year, annual average results for TTHMs and HAA5 are less than or equal to 0.060 mg/L and 0.045 mg/L, respectively, or monitoring results are consistently below the MCLs indicating that increased monitoring is no longer

necessary. After the dates set in Table 2, systems must meet requirements of 40 CFR 141.628 and 40 CFR 141.625(c) to return to routine monitoring.

(E) After the dates set in Table 2, systems must calculate operational evaluation levels each calendar quarter and take action, as needed, in accordance with 40 CFR 141.626.

(F) NTNC systems serving ten thousand or more people and community systems must comply with the provisions of 40 CFR Subpart U - Initial Distribution System Evaluation at:

<u>40 CFR 141.600</u>	<u>General requirements.</u>
<u>40 CFR 141.601</u>	<u>Standard monitoring.</u>
<u>40 CFR 141.602</u>	<u>System specific studies.</u>
<u>40 CFR 141.603</u>	<u>40/30 certification.</u>
<u>40 CFR 141.604</u>	<u>Very small system waivers.</u>
<u>40 CFR 141.605</u>	<u>Subpart V compliance monitoring location recommendations.</u>

(ii) Chlorite - Only systems that use **chlorine dioxide**.

(A) Systems using chlorine dioxide shall conduct daily and monthly monitoring in accordance with 40 CFR 141.132 (b) (2) (i) and additional chlorite monitoring in accordance with 40 CFR 141.132 (b) (2) (ii).

(B) With department approval, monthly monitoring may be reduced in accordance with 40 CFR 141.132 (b) (2) (iii) (B). Daily monitoring at entry to distribution required by 40 CFR 141.132 (b) (2) (i) (A) may not be reduced.

(iii) Bromate - Only systems that use **ozone**.

(A) Systems using ozone for disinfection or oxidation must conduct bromate monitoring in accordance with 40 CFR 141.132 (b) (3) (i).

(B) With department approval, monthly bromate monitoring may be reduced to once per quarter in accordance with 40 CFR 141.132 (b) (3) (ii) (~~and 40 CFR 141.132(e)~~) (B).

(c) Disinfectant residuals.

(i) Chlorine and chloramines. Community and NTNC systems, including consecutive systems, that (~~use~~) deliver water treated with chlorine or chloramines shall monitor and record the residual disinfectant level in the distribution system under WAC 246-290-300 (2) (b), 246-290-451(6), 246-290-664 (6) (~~(a)~~), or 246-290-694 (8) (~~(a)~~), but in no case less than as required by 40 CFR 141.132(c) or 40 CFR 141.624.

(ii) Chlorine dioxide. Community, NTNC, or TNC systems that use chlorine dioxide shall monitor in accordance with 40 CFR 141.132 (c) (2) and record results.

(d) Disinfection (~~(by-product)~~) byproducts precursors.

Community and NTNC surface water or GWI systems that use conventional filtration with sedimentation as defined in WAC 246-290-660(3) shall monitor under 40 CFR 141.132(d), and meet the requirements of 40 CFR 141.135.

(7) Organic chemicals.

(a) Purveyors of community and NTNC water systems shall comply

with monitoring requirements under 40 CFR 141.24 (a) - (d), 141.24 (f) (1) - (f) (15), 141.24 (f) (18) - (19), 141.24 (f) (21), 141.24 (g) (1) - (9), 141.24 (g) (12) - (14), 141.24 (h) (1) - (11), and 141.24 (h) (14) - (17).

(b) Sampling locations shall be as defined in 40 CFR 141.24 (f), 141.24 (g), and 141.24 (h) (~~(, and 141.40 (b))~~).

(i) Wellfield samples shall be allowed from department designated wellfields; and

(ii) Under 40 CFR 141.24 (f) (3) and 141.24 (h) (3), alternate sampling locations may be allowed if approved by the department. These alternate locations are described in department guidance. Purveyors may ask the department to approve an alternate sampling location for multiple sources within a single system that are blended prior to entry to the distribution system. The alternate sampling location shall consider the following:

(A) Source vulnerability;

(B) An updated organic monitoring plan showing location of all sources with current and proposed sampling locations;

(C) Individual source characteristics;

(D) Previous water quality information;

(E) Status of monitoring waiver applications; and

(F) Other information deemed necessary by the department.

(c) Composite samples:

(i) Purveyors may ask the certified lab to composite samples representing as many as five individual samples from within one system. Sampling procedures and protocols are outlined in department guidance;

(ii) For systems serving a population of less than three thousand three hundred one, the department may approve composite sampling between systems when those systems are part of an approved satellite management agency.

(d) The department may require the purveyor to sample both before and after treatment for one or more organic contaminants. The department shall notify the purveyor if and when this additional source sampling is required.

(e) Organic chemical monitoring plans.

(i) Purveyors of community and NTNC systems shall prepare an organic chemical monitoring plan and base routine monitoring on the plan.

(ii) The purveyor shall:

(A) Keep the monitoring plan on file with the system and make it available to the department for inspection upon request;

(B) Revise or expand the plan at any time the plan no longer reflects the monitoring requirements, procedures or sampling locations, or as directed by the department; and

(C) Submit the plan to the department for review and approval when requested and as part of the water system plan required under WAC 246-290-100.

(f) Monitoring waivers.

(i) Purveyors may request in writing, a monitoring waiver from the department for any organic monitoring requirement except those relating to unregulated VOCs;

(ii) Purveyors requesting a monitoring waiver shall comply with 40 CFR 141.24 (f)(7), 141.24 (f)(10), 141.24 (h)(6), and 141.24 (h)(7);

(iii) Purveyors shall update and resubmit requests for waiver renewals as directed by the department; and

(iv) Failure to provide complete and accurate information in the waiver application shall be grounds for denial of the monitoring waiver.

(g) Purveyors with emergency and seasonal sources shall monitor those sources under the applicable requirements of this section when they are actively providing water to consumers.

(8) Radionuclides. Monitoring for radionuclides shall be conducted under 40 CFR 141.26.

(9) *Cryptosporidium* and *E. coli* source monitoring. Purveyors with surface water or GWI sources shall monitor the sources in accordance with 40 CFR 141.701 and 702.

(10) Other substances.

On the basis of public health concerns, the department may require the purveyor to monitor for additional substances.

TABLE 3
MONITORING LOCATION

Sample Type	Sample Location
Asbestos	One sample from distribution system or if required by department, from the source.
Bacteriological	From representative points throughout distribution system.
<i>Cryptosporidium</i> and <i>E. coli</i> (Source Water) - WAC 246-290-630(16)	Under 40 CFR 141.703.
Complete Inorganic Chemical & Physical	From a point representative of the source, after treatment, and prior to entry to the distribution system.
Lead/Copper	From the distribution system at targeted sample tap locations.
Nitrate/Nitrite	From a point representative of the source, after treatment, and prior to entry to the distribution system.
Disinfection (By-Products) <u>Byproducts</u> - TTHMs and HAA5 - WAC 246-290-300(6)	Under 40 CFR 141.132 (b)(1) <u>(Subpart L of the CFR).</u>
<u>Disinfection Byproducts</u> - TTHMs and HAA5 - <u>WAC 246-290-300(7)</u>	<u>Under 40 CFR 141.600 - 629 (IDSE and LRAA in Subparts U and V of the CFR).</u>
Disinfection (By-Products) <u>Byproducts</u> - Chlorite (Systems adding chlorine dioxide)	Under 40 CFR 141.132 (b)(2).
Disinfection (By-Products) <u>Byproducts</u> - Bromate (Systems adding ozone)	Under 40 CFR 141.132 (b)(3).

Sample Type	Sample Location
Disinfectant Residuals - Chlorine and Chloramines	Under 40 CFR 141.132 (c)(1).
Disinfectant Residuals - Chlorine dioxide	Under 40 CFR 141.132 (c)(2).
Disinfection Precursors - Total Organic Carbon (TOC)	Under 40 CFR 141.132(d).
Disinfection Precursors - Bromide (Systems using ozone)	From the source before treatment.
Radionuclides	From a point representative of the source, after treatment and prior to entry to distribution system.
Organic Chemicals (VOCs & SOCs)	From a point representative of the source, after treatment and prior to entry to distribution system.
Other Substances (unregulated chemicals)	From a point representative of the source, after treatment, and prior to entry to the distribution system, or as directed by the department.

AMENDATORY SECTION (Amending WSR 08-03-061, filed 1/14/08, effective 2/14/08)

WAC 246-290-310 Maximum contaminant levels (MCLs) and maximum residual disinfectant levels (MRDLs). (1) General.

(a) The purveyor shall be responsible for complying with the standards of water quality identified in this section. If a substance exceeds its MCL or its maximum residual disinfectant level (MRDL), the purveyor shall take follow-up action under WAC 246-290-320.

(b) When enforcing the standards described under this section, the department shall enforce compliance with the primary standards as its first priority.

(2) Bacteriological.

(a) MCLs under this subsection shall be considered primary standards.

(b) If coliform presence is detected in any sample, the purveyor shall take follow-up action under WAC 246-290-320(2).

(c) Acute MCL. An acute MCL for coliform bacteria occurs when there is:

- (i) Fecal coliform presence in a repeat sample;
- (ii) *E. coli* presence in a repeat sample; or
- (iii) Coliform presence in any repeat samples collected as a follow-up to a sample with fecal coliform or *E. coli* presence.

Note: For the purposes of the public notification requirements in Part 7, Subpart A of this chapter, an acute MCL is a violation

that requires Tier 1 public notification.

(d) Nonacute MCL. A nonacute MCL for coliform bacteria occurs when:

(i) Systems taking less than forty routine samples during the month have more than one sample with coliform presence; or

(ii) Systems taking forty or more routine samples during the month have more than 5.0 percent with coliform presence.

(e) MCL compliance. The purveyor shall determine compliance with the coliform MCL for each month the system provides drinking water to the public. In determining MCL compliance, the purveyor shall:

(i) Include:

(A) Routine samples; and

(B) Repeat samples.

(ii) Not include:

(A) Samples invalidated under WAC 246-290-320 (2) (d); and

(B) Special purpose samples.

(3) Inorganic chemical and physical.

(a) The primary and secondary MCLs are listed in Table 4 and

5:

TABLE 4
INORGANIC CHEMICAL CHARACTERISTICS

Substance	Primary MCLs (mg/L)
Antimony (Sb)	0.006
Arsenic (As)	0.010*
Asbestos	7 million fibers/liter (longer than 10 microns)
Barium (Ba)	2.0
Beryllium (Be)	0.004
Cadmium (Cd)	0.005
Chromium (Cr)	0.1
Copper (Cu)	**
Cyanide (HCN)	0.2
Fluoride (F)	4.0
Lead (Pb)	**
Mercury (Hg)	0.002
Nickel (Ni)	0.1
Nitrate (as N)	10.0
Nitrite (as N)	1.0
Selenium (Se)	0.05
Sodium (Na)	**
Thallium (Tl)	0.002
Substance	Secondary MCLs (mg/L)
Chloride (Cl)	250.0
Fluoride (F)	2.0
Iron (Fe)	0.3
Manganese (Mn)	0.05

Substance	Primary MCLs (mg/L)
Silver (Ag)	0.1
Sulfate (SO ₄)	250.0
Zinc (Zn)	5.0

Note* Does not apply to TNC systems.
 Note** Although the state board of health has not established MCLs for copper, lead, and sodium, there is sufficient public health significance connected with copper, lead, and sodium levels to require inclusion in inorganic chemical and physical source monitoring. For lead and copper, the EPA has established distribution system related levels at which a system is required to consider corrosion control. These levels, called "action levels," are 0.015 mg/L for lead and 1.3 mg/L for copper and are applied to the highest concentration in ten percent of all samples collected from the distribution system. The EPA has also established a recommended level of twenty mg/L for sodium as a level of concern for those consumers that may be restricted for daily sodium intake in their diets.

TABLE 5
 PHYSICAL CHARACTERISTICS

Substance	Secondary MCLs
Color	15 Color Units
Specific Conductivity	700 umhos/cm
Total Dissolved Solids (TDS)	500 mg/L

(b) Compliance with the MCLs, except for nitrate and nitrite, in this subsection is determined by a running annual average at each sampling point. The system will not be considered in violation of the MCL until it has completed one year of quarterly sampling and at least one sampling point is in violation of the MCL. If one sampling point is in violation of the MCL, the system is in violation of the MCL.

(i) If any sample will cause the running annual average to exceed the MCL at any sampling point, the system is out of compliance with the MCL immediately.

(ii) If a system fails to collect the required number of samples, compliance will be based on the total number of samples collected.

(iii) If a sample result is less than the detection limit, zero will be used to calculate the running annual average.

(c) Compliance with the MCLs for nitrate and nitrite is determined based on one sample if the levels of these contaminants are below the MCLs as determined under Table 4 of this section. If the levels of nitrate or nitrite exceed the MCLs in the initial sample, a confirmation sample is required under 40 CFR 141.23 (f) (2), and compliance shall be determined based on the average of the initial and confirmation samples.

(4) Disinfection (~~(by-products)~~) byproducts.

(a) The department shall consider standards under this subsection as primary standards. The MCLs in this subsection apply to monitoring required by WAC 246-290-300(6) and 40 CFR 141.620 - 629.

(b) The MCLs for disinfection (~~(by-products)~~) byproducts are

as follows:

Disinfection ((By-Product)) Byproduct	MCL (mg/L)
Total Trihalomethanes (TTHMs)	0.080
Haloacetic acids (five) (HAA5)	0.060
Bromate	0.010
Chlorite	1.0

(c) Whether a system has exceeded the disinfection byproduct MCLs shall be determined in accordance with 40 CFR 141.133. Beginning on the dates specified for compliance in 40 CFR 141.620(c), compliance with the TTHMs and HAA5 MCLs shall be based on the LRAAs as required by 40 CFR 141.64 (b)(2) and 40 CFR 141.620(d). Compliance with the Bromate and Chlorite MCL will continue to be determined in accordance with 40 CFR 141.133.

(5) Disinfectant residuals.

(a) The department shall consider standards under this subsection primary standards. The MRDLs in this subsection apply to monitoring required by WAC 246-290-300(6).

(b) The MRDL for disinfectants is as follows:

Disinfectant Residual	MRDL (mg/L)
Chlorine	4.0 (as Cl ₂)
Chloramines	4.0 (as Cl ₂)
Chlorine Dioxide	0.8 (as ClO ₂)

(c) Whether a system has exceeded MRDLs shall be determined in accordance with 40 CFR 141.133.

(6) Radionuclides.

(a) The department shall consider standards under this subsection primary standards.

(b) The MCLs for radium-226 and radium-228, gross alpha particle activity, beta particle and photon radioactivity, and uranium shall be as listed in 40 CFR 141.66.

(7) Organic chemicals.

(a) The department shall consider standards under this subsection primary standards.

(b) VOCs.

(i) The MCLs for VOCs shall be as listed in 40 CFR 141.61(a).

(ii) The department shall determine compliance with this subsection based on compliance with 40 CFR 141.24(f).

(c) SOCs.

(i) MCLs for SOCs shall be as listed in 40 CFR 141.61(c).

(ii) The department shall determine compliance with this subsection based on compliance with 40 CFR 141.24(h).

(8) Other chemicals.

(a) The state board of health shall determine maximum contaminant levels for any additional substances.

(b) Purveyors may be directed by the department to comply with state advisory levels (SALs) for contaminants that do not have a

MCL established in chapter 246-290 WAC. SALs shall be:

(i) MCLs that have been promulgated by the EPA, but which have not yet been adopted by the state board of health; or

(ii) State board of health adopted levels for substances recommended by the department and not having an EPA established MCL. A listing of these may be found in the department document titled *Procedures and References for the Determination of State Advisory Levels for Drinking Water Contaminants* dated June 1996, that has been approved by the state board of health and is available.

AMENDATORY SECTION (Amending WSR 08-03-061, filed 1/14/08, effective 2/14/08)

WAC 246-290-480 Recordkeeping and reporting. (1) Records. The purveyor shall keep the following records of operation and water quality analyses:

(a) Bacteriological and turbidity analysis results shall be kept for five years. Chemical analysis results shall be kept for as long as the system is in operation. Records of source meter readings shall be kept for ten years. Other records of operation and analyses required by the department shall be kept for three years. All records shall bear the signature of the operator in responsible charge of the water system or his or her representative. Systems shall keep these records available for inspection by the department and shall send the records to the department if requested. Actual laboratory reports may be kept or data may be transferred to tabular summaries, provided the following information is included:

(i) The date, place, and time of sampling, and the name of the person collecting the sample;

(ii) Identification of the sample type (routine distribution system sample, repeat sample, source or finished water sample, or other special purpose sample);

(iii) Date of analysis;

(iv) Laboratory and person responsible for performing analysis;

(v) The analytical method used; and

(vi) The results of the analysis.

(b) Records of action taken by the system to correct violations of primary drinking water standards. For each violation, records of actions taken to correct the violation, and copies of public notifications shall be kept for no less than three years after the last corrective action taken.

(c) Copies of any written reports, summaries, or communications relating to sanitary surveys or SPIs of the system conducted by system personnel, by a consultant or by any local, state, or federal agency, shall be kept for ten years after

completion of the sanitary survey or SPI involved.

(d) Copies of project reports, construction documents and related drawings, inspection reports and approvals shall be kept for the life of the facility.

(e) Where applicable, records of the following shall be kept for a minimum of three years:

(i) Chlorine residual;

(ii) Fluoride level;

(iii) Water treatment plant performance including, but not limited to:

(A) Type of chemicals used and quantity;

(B) Amount of water treated;

(C) Results of analyses; and

(iv) Other information as specified by the department.

(f) The purveyor shall retain copies of public notices made under Part 7, Subpart A of this chapter and certifications made to the department under 40 CFR 141.33(e) for a period of at least three years after issuance.

(g) Purveyors using conventional, direct, or in-line filtration that recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes within their treatment plant shall, beginning no later than June 8, 2004, collect and retain on file the following information for review and evaluation by the department:

(i) A copy of the recycle notification and information submitted to the department under WAC 246-290-660 (4) (a) (i).

(ii) A list of all recycle flows and the frequency with which they are returned.

(iii) Average and maximum backwash flow rate through the filters and the average and maximum duration of the filter backwash process in minutes.

(iv) Typical filter run length and a written summary of how filter run length is determined.

(v) The type of treatment provided for the recycle flow.

(vi) Data on the physical dimensions of the equalization and/or treatment units, typical and maximum hydraulic loading rates, type of treatment chemicals used and average dose and frequency of use, and frequency at which solids are removed, if applicable.

(h) Purveyors required to conduct disinfection profiling and benchmarking under 40 CFR 141.530 through 141.544 shall retain the results on file indefinitely.

(i) Copies of monitoring plans developed under this chapter shall be kept for the same period of time as the records of analyses taken under the plan are required to be kept under (a) of this subsection.

(j) Purveyors using surface water or GWI sources must keep the records required by 40 CFR 141.722.

(2) Reporting.

(a) Unless otherwise specified in this chapter, the purveyor shall report to the department within forty-eight hours the failure to comply with any national primary drinking water regulation

(including failure to comply with any monitoring requirements) as set forth in this chapter. For violations assigned to Tier 1 in WAC 246-290-71001, the department must be notified as soon as possible, but no later than twenty-four hours after the violation is known.

(b) The purveyor shall submit to the department reports required by this chapter, including tests, measurements, and analytic reports. Monthly reports are due before the tenth day of the following month, unless otherwise specified in this chapter.

(c) The purveyor shall submit to the department copies of any written summaries or communications relating to the status of monitoring waivers during each monitoring cycle or as directed by the department.

(d) Source meter readings shall be made available to the department.

(e) Water facilities inventory form (WFI).

(i) Purveyors of **community** and **NTNC** systems shall submit an annual WFI update to the department;

(ii) Purveyors of **TNC** systems shall submit an updated WFI to the department as requested;

(iii) Purveyors shall submit an updated WFI to the department within thirty days of any change in name, category, ownership, or responsibility for management of the water system, or addition of source or storage facilities; and

(iv) At a minimum the completed WFI shall provide the current names, addresses, and telephone numbers of the owners, operators, and emergency contact persons for the system.

(f) Bacteriological. The purveyor shall notify the department of the presence of:

(i) Coliform in a sample, within ten days of notification by the laboratory; and

(ii) Fecal coliform or *E. coli* in a sample, by the end of the business day in which the purveyor is notified by the laboratory. If the purveyor is notified of the results after normal close of business, then the purveyor shall notify the department before the end of the next business day.

(g) Systems monitoring for disinfection (~~((by-products))~~) byproducts under WAC 246-290-300(6) shall report information to the department as specified in 40 CFR 141.134.

(h) Systems monitoring for disinfectant residuals under WAC 246-290-300(6) shall report information to the department as specified in subsection (2) (~~((a))~~) (b) of this section, and 40 CFR 141.134(b).

(i) Systems required to monitor for disinfection (~~((by-product))~~) byproduct precursor removal under WAC 246-290-300(6) shall report information to the department as specified in 40 CFR 141.134(d).

(j) Systems required to monitor for disinfection byproducts under WAC 246-290-300(6) shall report information to the department as specified in 40 CFR 141.600 - 629.

(k) Systems subject to the enhanced treatment requirements for *Cryptosporidium* under WAC 246-290-630(4) shall report information

to the department as specified in 40 CFR 141.706 and 141.721.

~~((+*))~~ (l) Systems that use acrylamide and epichlorohydrin in the treatment of drinking water, must certify annually in writing to the department that the combination (or product) of dose and monomer level does not exceed the levels specified in ~~((+*))~~ (l)(i) and (ii) of this subsection. Certifications shall reference maximum use levels established by an ANSI-accredited listing organization approved by the department.

(i) Acrylamide = 0.05 percent dosed at 1 ppm (or equivalent); and

(ii) Epichlorohydrin = 0.01 percent dosed at 20 ppm (or equivalent).

~~((+*))~~ (m) Use of products that exceed the specified levels constitutes a treatment technique violation and the public must be notified under the public notice requirements under Part 7, Subpart A of this chapter.

~~((+*))~~ (n) Systems shall submit to the department, in accordance with 40 CFR 141.31(d), a certification that the system has complied with the public notification regulations (Part 7, Subpart A of this chapter) when a public notification is required. Along with the certification, the system shall submit a representative copy of each type of notice.

AMENDATORY SECTION (Amending WSR 08-03-061, filed 1/14/08, effective 2/14/08)

WAC 246-290-694 Monitoring for unfiltered systems. (1) Source coliform monitoring for systems without a limited alternative to filtration.

(a) The purveyor shall ensure that source water samples of each surface or GWI source are representative and:

(i) Collected before the first point of disinfectant application; and

(ii) Analyzed for fecal coliform density in accordance with methods acceptable to the department.

(b) The purveyor shall ensure source samples are collected for fecal coliform analysis each week the system serves water to the public based on the following schedule:

Population Served	Minimum Number/week*
25 - 500	1
501 - 3,300	2
3,301 - 10,000	3
10,001 - 25,000	4
>25,000	5

*Must be taken on separate days.

(c) Each day the system serves water to the public and the turbidity of the source water exceeds 1.0 NTU, the purveyor shall

ensure one representative source water sample is collected before the first point of disinfectant application and analyzed for fecal coliform density. This sample shall count toward the weekly source coliform sampling requirement.

(d) The purveyor using a surface water or GWI source and that meets the criteria to remain unfiltered under WAC 246-290-690, shall collect at least one sample near the first service connection each day the turbidity level of the source water, measured as specified under WAC 246-290-694, exceeds 1 NTU. This sample must be analyzed for the presence of total coliform. When one or more turbidity measurements in any day exceed 1 NTU, the system must collect this coliform sample within twenty-four hours of the first exceedance, unless the department determines that the system, for logistical reasons outside the system's control, cannot have the sample analyzed within thirty hours of collection. Sample results from this coliform monitoring must be included in determining compliance with the MCL for total coliforms under WAC 246-290-310(2).

(e) A purveyor shall not be considered in violation of (c) of this subsection, if the purveyor demonstrates to the department's satisfaction that, for valid logistical reasons outside the purveyor's control, the additional fecal coliform sample could not be analyzed within a time frame acceptable to the department.

(2) Source coliform monitoring for systems with a limited alternative to filtration.

(a) The purveyor shall ensure that source water samples of each surface or GWI source are:

(i) Collected before the first point of primary disinfection; and

(ii) Analyzed for fecal coliform density in accordance with methods acceptable to the department.

(b) At a minimum, the purveyor shall ensure source samples are collected for fecal coliform analysis at a frequency equal to ten percent the number of routine coliform samples collected within the distribution system each month under WAC 246-290-300, or once per calendar month, whichever is greater, up to a maximum of one sample per day.

(3) Coliform monitoring at entry to distribution for systems without a limited alternative to filtration.

(a) The purveyor shall collect and have analyzed one coliform sample at the entry point to the distribution system each day that a routine or repeat coliform sample is collected within the distribution system under WAC 246-290-300(3) or 246-290-320(2), respectively.

(b) The purveyor shall use the results of the coliform monitoring at entry to distribution along with inactivation ratio monitoring results to demonstrate the adequacy of source treatment.

(4) Source turbidity monitoring for systems without a limited alternative to filtration.

(a) The purveyor shall continuously monitor and record turbidity:

(i) On representative source water samples before the first

point of primary disinfectant application; and

(ii) In accordance with the analytical techniques in WAC 246-290-638.

(b) If source water turbidity is not the same as the turbidity of water delivered to consumers, the purveyor shall continuously monitor and record turbidity of water delivered.

(5) Source turbidity monitoring for systems with a limited alternative to filtration. The purveyor shall:

(a) Continuously monitor turbidity on representative source samples before the first point of primary disinfection application;

(b) Record continuous turbidity measurements at equal intervals, of at least four hours, in accordance with a department-approved sampling schedule; and

(c) Conduct monitoring in accordance with the analytical techniques under WAC 246-290-638.

(6) Monitoring the level of inactivation.

(a) Each day the system is in operation, the purveyor shall determine the total level of inactivation of *Giardia lamblia* cysts, viruses, and, if providing a limited alternative to filtration, any other pathogenic organisms of health concern including *Cryptosporidium* oocysts, achieved through disinfection.

(b) At least once per day, the purveyor shall monitor the following parameters to determine the total inactivation ratio achieved through disinfection:

(i) Temperature of the disinfected water at each residual disinfectant concentration sampling point used for CT calculations; and

(ii) If using chlorine, pH of the disinfected water at each chlorine residual disinfectant concentration sampling point used for CT calculations.

(c) Each day during peak hourly flow, the purveyor shall:

(i) Determine disinfectant contact time, T, to the point at which C is measured; and

(ii) Measure the residual disinfectant concentration, C, of the water at the point for which T is calculated. The C measurement point must be before or at the first consumer.

(7) Monitoring the residual disinfectant concentration entering the distribution system for either unfiltered systems, or systems using a limited alternative to filtration.

(a) Systems serving more than thirty-three hundred people.

(i) The purveyor shall continuously monitor and record the residual disinfectant concentration of water entering the distribution system and report the lowest value each day.

(ii) If the continuous monitoring equipment fails, the purveyor shall measure the residual disinfectant concentration on grab samples collected at least every four hours at the entry to the distribution system while the equipment is being repaired or replaced. The purveyor shall have continuous monitoring equipment back on-line within five working days following failure.

(b) Systems serving thirty-three hundred or less people.

(i) The purveyor shall collect grab samples or use continuous monitoring and recording to measure the residual disinfectant

concentration entering the distribution system.

(ii) A purveyor choosing to take grab samples shall collect:

(A) Samples at the following minimum frequencies:

<u>Population Served</u>	<u>Number/day</u>
25 - 500	1
501 - 1,000	2
1,001 - 2,500	3
2,501 - 3,300	4

(B) At least one of the grab samples at peak hourly flow based on historical flows for the system; and

(C) The remaining sample or samples at intervals evenly spaced over the time the system is disinfecting water that will be delivered to the public.

(iii) When grab samples are collected and the residual disinfectant concentration at the entry to distribution falls below 0.2 mg/L, the purveyor shall collect a grab sample every four hours until the residual disinfectant concentration is 0.2 mg/L or more.

(8) Monitoring residual disinfectant concentration within the distribution system for either unfiltered systems, or systems using a limited alternative to filtration.

(a) The purveyor shall measure the residual disinfectant concentration within the distribution system at the same time and location that a routine or repeat coliform sample is collected under WAC 246-290-300(3) or 246-290-320(2) or once per day, whichever is greater.

(b) The purveyor of a system that purchases completely treated surface or GWI water as determined by the department shall comply with the requirements of (a) of this subsection or as otherwise directed by the department under WAC 246-290-300 (2) (~~(c)~~). At a minimum, the purveyor shall measure the residual disinfectant concentration within the distribution system at the same time and location that a routine or repeat coliform sample is collected under WAC 246-290-300(3) or 246-290-320(2).

(c) The purveyor may measure HPC within the distribution system in lieu of measuring the residual disinfectant concentration under this subsection.

AMENDATORY SECTION (Amending WSR 08-03-061, filed 1/14/08, effective 2/14/08)

WAC 246-290-72001 Purpose and applicability of the consumer confidence report requirements. WAC 246-290-72001 through 246-290-72012 establishes minimum requirements for the content of annual reports that community water systems must deliver to their customers. These 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.

(1) This section applies only to community water systems.

(2) For the purpose of WAC 246-290-72001 through 246-290-72012:

(a) "Customers" means billing units or service connections to which water is delivered by a community water system.

(b) "Detected" means at or above the levels prescribed by WAC 246-290-300(4) for inorganic contaminants, at or above the levels prescribed by WAC 246-290-300(7) for organic contaminants, at or above the levels prescribed by 40 CFR 141.131 (b)(2)(iv) for disinfection byproducts, and at or above the levels prescribed by 40 CFR 141.25(c) for radioactive contaminants.

AMENDATORY SECTION (Amending WSR 08-03-061, filed 1/14/08, effective 2/14/08)

WAC 246-290-72005 Report contents--Information on detected contaminants. (1) This section specifies the requirements for information to be included in each report for contaminants subject to mandatory monitoring. It applies to:

(a) Contaminants subject to an MCL, action level, maximum residual disinfectant level or treatment technique (regulated contaminants);

(b) Contaminants for which monitoring is required under 40 CFR 140.40; and

(c) Disinfection (~~(by-products)~~) byproducts for which monitoring is required by WAC 246-290-300(6) and 40 CFR 141.142 or microbial contaminants for which monitoring is required by WAC 246-290-300(3) and 40 CFR 141.143, except as provided under WAC 246-290-72006(1), and which are detected in the finished water.

(2) The data relating to these contaminants must be displayed in one table or in several adjacent tables. Any additional monitoring results which a community water system chooses to include in its report must be displayed separately.

(3) The data must be derived from data collected to comply with EPA and state monitoring and analytical requirements during the previous calendar year except that:

(a) Where a system is allowed to monitor for regulated contaminants less than once a year, the table(s) must include the date and results of the most recent sampling and the report must include a brief statement indicating that the data presented in the report are from the most recent testing done in accordance with the regulations. No data older than five years need be included.

(b) Results of monitoring in compliance with 40 CFR 141.142 and 40 CFR 141.143 need only be included for five years from the date of last sample or until any of the detected contaminants becomes regulated and subject to routine monitoring requirements,

whichever comes first.

(4) For detected regulated contaminants listed in WAC 246-290-72012, the table(s) must contain:

(a) The MCL for that contaminant expressed as a number equal to or greater than 1.0 (as provided in WAC 246-290-72012);

(b) The MCLG for that contaminant expressed in the same units as the MCL;

(c) If there is no MCL for a detected contaminant, the table must indicate that there is a treatment technique, or specify the action level, applicable to that contaminant, and the report must include the definitions for treatment technique and/or action level, as appropriate, specified in WAC 246-290-72004;

(d) For contaminants subject to an MCL, except turbidity and total coliforms, the highest contaminant level used to determine compliance with a National Primary Drinking Water Regulation and the range of detected levels, as follows:

(i) When compliance with the MCL is determined annually or less frequently: The highest detected level at any sampling point and the range of detected levels expressed in the same units as the MCL.

(ii) When compliance with the MCL is determined by calculating a running annual average of all samples taken at a sampling point: The highest average of any of the sampling points and the range of all sampling points expressed in the same units as the MCL. For the TTHM and HAA5 MCLs determined on the basis of the LRAA, systems must include the highest LRAA for TTHM and HAA5 and the range of individual sample results for all monitoring locations expressed in the same units as the MCL. If more than one location exceeds the TTHM or HAA5 MCL, the system must include the LRAA for all locations that exceed the MCL.

(iii) When compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all samples at all sampling points: The average and range of detection expressed in the same units as the MCL. The system is required to include individual sample results for the IDSE conducted under WAC 246-290-300 (6)(b)(i)(F) when determining the range of TTHM and HAA5 results to be reported in the annual consumer confidence report for the calendar year that the IDSE samples were taken.

(iv) Note to WAC 246-290-72005 (4)(d): When rounding of results to determine compliance with the MCL is allowed by the regulations, rounding should be done prior to multiplying the results by the factor listed in WAC 246-290-72012;

(e) For turbidity.

(i) When it is reported under chapter 246-290 WAC Part 6, Subpart C: The highest average monthly value.

(ii) When it is reported under the requirements of chapter 246-290 WAC Part 6, Subpart D: The highest monthly value. The report should include an explanation of the reasons for measuring turbidity.

(iii) When it is reported under chapter 246-290 WAC Part 6, Subpart B: The highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in

chapter 246-290 WAC Part 6, Subpart B for the filtration technology being used. The report should include an explanation of the reasons for measuring turbidity;

(f) For lead and copper: The 90th percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level;

(g) For total coliform:

(i) The highest monthly number of positive samples for systems collecting fewer than 40 samples per month; or

(ii) The highest monthly percentage of positive samples for systems collecting at least 40 samples per month;

(h) For fecal coliform: The total number of positive samples; and

(i) The likely source(s) of detected contaminants to the best of the purveyor's knowledge. Specific information regarding contaminants may be available in sanitary surveys and source water assessments, and should be used when available to the purveyor. If the purveyor lacks specific information on the likely source, the report must include one or more of the typical sources for that contaminant listed in WAC 246-290-72012 which are most applicable to the system.

(5) If a community water system distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources, the table should contain a separate column for each service area and the report should identify each separate distribution system. Alternatively, systems could produce separate reports tailored to include data for each service area.

(6) The table(s) must clearly identify any data indicating violations of MCLs, MRDLs, or treatment techniques and the report must contain a clear and readily understandable explanation of the violation including: The length of the violation, the potential adverse health effects, and actions taken by the system to address the violation. To describe the potential health effects, the system must use the relevant language of WAC 246-290-72012.

(7) For detected unregulated contaminants for which monitoring is required, the table(s) must contain the average and range at which the contaminant was detected. The report may include a brief explanation of the reasons for monitoring for unregulated contaminants.