

**WAC 246-290-692 Disinfection for unfiltered systems.** (1) General requirements.

(a) The purveyor without a limited alternative to filtration shall:

(i) Provide continuous disinfection treatment to ensure at least 99.9 percent (3-log) inactivation of *Giardia lamblia* cysts and 99.99 percent (4-log) inactivation of viruses at all times the system serves water to the public.

(ii) Failure to provide the required inactivation level on more than one day in any calendar month shall be considered a treatment technique violation.

(b) The purveyor with a limited alternative to filtration shall meet the treatment requirements in WAC 246-290-630(11) at all times the system serves water to the public.

(c) The purveyor may be required to provide greater levels of inactivation of *Giardia lamblia* cysts, other pathogenic microorganisms of public health concern, and viruses to protect the health of consumers.

(2) Determining the level of inactivation.

(a) Each day the system without a limited alternative to filtration serves water to the public, the purveyor, using procedures and CT<sub>99.9</sub> values specified in 40 C.F.R. 141.74, Vol. 54, No. 124, (published June 29, 1989), shall determine:

(i) CT values using the system's treatment parameters and calculate the total inactivation ratio achieved by disinfection; and

(ii) Whether the system's disinfection treatment process is achieving the minimum levels of inactivation of *Giardia lamblia* cysts and viruses required by the department. For purposes of determining compliance with the inactivation requirements specified in subsection (1) of this section, no credit shall be granted for disinfection applied to a source water with a turbidity greater than 5.0 NTU.

(b) Each day the system with a limited alternative to filtration serves water to the public, the purveyor, using appropriate guidance, shall determine:

(i) CT values using the system's treatment parameters and calculate the total inactivation ratio achieved by disinfection; and

(ii) Whether the system's treatment process is achieving the minimum levels of inactivation of *Giardia lamblia* cysts, viruses, or other pathogenic organisms of health concern including *Cryptosporidium* oocysts that would be greater than what would be expected from the combination of filtration plus chlorine disinfection.

(c) The purveyor shall be considered in compliance with the daily inactivation requirement when a total inactivation ratio equal to or greater than 1.0 is achieved.

(d) The purveyor of a system using a disinfectant or combination of disinfectants may use CT values lower than those specified in (a) of this subsection, if the purveyor demonstrates to the department's satisfaction that the required levels of inactivation of *Giardia lamblia* cysts, viruses, and, if providing a limited alternative to filtration, any other pathogenic organisms of public health concern including *Cryptosporidium* oocysts, can be achieved using the lower CT values.

(e) The purveyor of a system using preformed chloramines or adding ammonia to the water before chlorine shall demonstrate to the department's satisfaction that the system achieves at least 99.99 percent (4-log) inactivation of viruses.

(3) The purveyor using either unfiltered or "limited alternative to filtration" treated sources shall ensure that disinfection facilities provide either:

(a) Redundant components, including an auxiliary power supply with automatic start up and alarm, to ensure continuous disinfection. Redundancy shall ensure that both the minimum inactivation requirements and the requirement for a 0.2 mg/L residual disinfectant concentration at entry to the distribution system are met at all times water is delivered to the distribution system; or

(b) Automatic shutoff of delivery of water to the distribution system when the residual disinfectant concentration in the water is less than 0.2 mg/L. Automatic shutoff shall be allowed only in systems where the purveyor demonstrates to the department's satisfaction that automatic shutoff will not endanger health or interfere with fire protection.

(4) Disinfectant residual entering the distribution system.

(a) The purveyor shall ensure that water entering the distribution system contains a residual disinfectant concentration, measured as free or combined chlorine, of at least 0.2 mg/L at all times the system serves water to the public; and

(b) Failure to provide a 0.2 mg/L residual at entry to distribution for more than four hours on any day shall be considered a treatment technique violation.

(5) Disinfectant residuals within the distribution system.

(a) The purveyor shall ensure that the residual disinfectant concentration in the distribution system, measured as total chlorine, free chlorine, combined chlorine, or chlorine dioxide, is detectable in at least ninety-five percent of the samples taken each calendar month. The department may approve a written request to use a lower value. At a minimum, the request to use a lower value must identify the instrument used to measure the residual disinfectant concentration and include the manufacturer's documentation on the instrument's accuracy to measure the lower value.

(b) The purveyor of a system that purchases completely treated surface or GWI water as determined by the department shall comply with the requirements specified in (a) of this subsection.

(c) Water in the distribution system with an HPC level less than or equal to 500 organisms/ml is considered to have a detectable residual disinfectant concentration.

[Statutory Authority: RCW 43.20.050 and 70.119A.080. WSR 17-01-062, § 246-290-692, filed 12/14/16, effective 1/14/17. Statutory Authority: RCW 70.119A.180 and 43.20.050. WSR 08-03-061, § 246-290-692, filed 1/14/08, effective 2/14/08. Statutory Authority: RCW 43.20.050 (2) and (3) and 70.119A.080. WSR 03-08-037, § 246-290-692, filed 3/27/03, effective 4/27/03. Statutory Authority: RCW 43.02.050 [43.20.050]. WSR 99-07-021, § 246-290-692, filed 3/9/99, effective 4/9/99. Statutory Authority: RCW 43.20.050. WSR 94-14-001, § 246-290-692, filed 6/22/94, effective 7/23/94; WSR 93-08-011 (Order 352B), § 246-290-692, filed 3/25/93, effective 4/25/93.]