

WAC 246-290-662 Disinfection for filtered systems. (1) General requirements.

(a) The purveyor shall provide continuous disinfection to ensure that filtration and disinfection together achieve, at all times the system serves water to the public, at least the following:

(i) 99.9 percent (3-log) inactivation and removal of *Giardia lamblia* cysts; and

(ii) 99.99 percent (4-log) inactivation and/or removal of viruses.

(b) Where sources receive sewage discharges and/or agricultural runoff, purveyors may be required to provide greater levels of removal and inactivation of *Giardia lamblia* cysts and viruses to protect the health of consumers served by the system.

(c) Regardless of the removal credit granted for filtration, purveyors shall, at a minimum, provide continuous disinfection to achieve at least 68 percent (0.5-log) inactivation of *Giardia lamblia* cysts and 99 percent (2-log) inactivation of viruses.

(2) Establishing the level of inactivation.

(a) The department shall establish the level of disinfection (log inactivation) to be provided by the purveyor.

(b) The required level of inactivation shall be based on source quality and expected levels of *Giardia lamblia* cyst and virus removal achieved by the system's filtration process.

(c) Based on periodic reviews, the department may adjust, as necessary, the level of disinfection the purveyor shall provide to protect the health of consumers served by the system.

(d) Systems granted no *Giardia lamblia* cyst removal credit and no *Cryptosporidium* oocyst removal credit shall:

(i) Unless directed otherwise by the department, provide interim disinfection to:

(A) Ensure compliance with the monthly coliform MCL under WAC 246-290-310;

(B) Achieve at least 99.9 percent (3-log) inactivation of *Giardia lamblia* cysts; and

(C) Maintain a detectable residual disinfectant concentration, or an HPC level less than 500 organisms/ml, within the distribution system in accordance with subsection (6) of this section. 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.

(ii) Comply with the interim disinfection requirements until the system can demonstrate to the department's satisfaction that it complies with the operating requirements and turbidity performance requirements under WAC 246-290-654 and 246-290-660(1), respectively.

(3) Determining the level of inactivation.

(a) Unless the department has approved a reduced CT monitoring schedule for the system, each day the system serves water to the public, the purveyor, using procedures and CT values acceptable to the department such as those presented in department guidance of surface water treatment, shall determine:

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

(ii) Whether the system's disinfection process is achieving the minimum levels of inactivation of *Giardia lamblia* cysts and viruses required by the department.

(b) The department may allow a purveyor to determine the level of inactivation using lower CT values than those specified in (a) of this subsection, provided the purveyor demonstrates to the department's satisfaction that the required levels of inactivation of *Giardia lamblia* cysts and viruses can be achieved.

(4) Determining compliance with the required level of inactivation.

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

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

(5) Residual disinfectant concentration entering the distribution system.

(a) The purveyor shall ensure that all 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.

(6) Residual disinfectant concentration 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.

(b) Water in the distribution system with an HPC less than or equal to 500 organisms/ml is considered to have a detectable residual disinfectant concentration for the purposes of compliance with WAC 246-290-662 (6) (a).

[Statutory Authority: RCW 43.20.050 and 70.119A.080. WSR 17-01-062, § 246-290-662, filed 12/14/16, effective 1/14/17. Statutory Authority: RCW 43.20.050 (2) and (3) and 70.119A.080. WSR 03-08-037, § 246-290-662, filed 3/27/03, effective 4/27/03. Statutory Authority: RCW 43.02.050 [43.20.050]. WSR 99-07-021, § 246-290-662, filed 3/9/99, effective 4/9/99. Statutory Authority: RCW 43.20.050. WSR 94-14-001, § 246-290-662, filed 6/22/94, effective 7/23/94; WSR 93-08-011 (Order 352B), § 246-290-662, filed 3/25/93, effective 4/25/93.]