

### 3745-81-73 **Filtration of water from surface water sources.**

A public water system that uses a surface water source, in whole or in part, shall provide treatment consisting of both disinfection, as specified in paragraph (B) of rule 3745-81-72 of the Administrative Code, and filtration treatment which complies with paragraph (A), (B), or (C) of this rule. . Distinction between surface water sources and ground water sources is set forth in rule 3745-81-76 of the Administrative Code. Filtration treatment shall consistently and reliably achieve at least ninety-nine per cent (2 log) removal of *Cryptosporidium*. Failure to meet any requirement of this rule shall be a treatment technique violation and shall require public notification as set forth in rule 3745-81-32 of the Administrative Code.

- (A) Conventional filtration treatment or direct filtration treatment. All public water systems using conventional filtration treatment or direct filtration treatment to treat surface water shall meet the following:
  - (1) Turbidity levels of representative samples of filtered water shall be less than or equal to 0.3 nephelometric turbidity units (NTU) in at least ninety-five per cent of the samples analyzed each month.
  - (2) The turbidity level of representative samples of a public water system's filtered water shall not exceed one NTU.
- (B) Slow sand filtration. Filtration by a public water system filtering surface water by slow sand filtration shall meet the following:
  - (1) For a public water system using slow sand filtration, the turbidity level of representative samples of filtered water shall be less than or equal to one NTU in at least ninety-five per cent of the samples each month.
  - (2) The turbidity level of representative samples of a public water system's filtered water shall not exceed five NTU.
- (C) Alternative filtration technologies. If a public water system using a surface water source, in whole or in part, can demonstrate to the director, using pilot plant studies or other means, that a filtration technology not listed in paragraph (A) or (B) of this rule, in combination with disinfection treatment that meets the requirements of paragraph (B) of rule 3745-81-72 of the Administrative Code, consistently and reliably achieves ninety-nine per cent (2 log) removal of *Cryptosporidium*, 99.9 per cent (3 log) removal and/or inactivation of *Giardia lamblia* cysts and 99.99 per cent (4 log) removal and/or inactivation of viruses, the director may accept this alternative filtration technology for use by the public water system. For a public water system that makes this demonstration, the requirements of paragraph (A) of this rule apply. For a public water system that makes this demonstration, the minimum log removal and inactivation requirements for conventional filtration in table A of rule 3745-81-72 of the Administrative Code shall apply. Each membrane filter which has been awarded credit for log removal as described in this paragraph shall undergo direct integrity testing daily to verify the log removal it has been credited to achieve. The direct integrity testing requirements in paragraph (K)(3) of

rule 3745-81-68 of the Administrative Code shall apply. In addition, continuous filtrate turbidity monitoring shall be performed on each membrane filter. If the turbidity of a membrane filter exceeds 0.15 NTU in two consecutive readings taken fifteen minutes apart, the system shall conduct a direct integrity test on the membrane filter. A membrane filter shall be removed from service for repairs until the membrane filter can pass a direct integrity test to verify the log removal it has been credited to achieve. Systems shall submit a monthly report including daily direct integrity test results, any turbidity monitoring results which trigger direct integrity testing, and any corrective action taken.

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