

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 the requirements of paragraph (A), (B), or (C) of this rule no later than eighteen months following designation by the director as a surface water source. 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 after the date specified in this paragraph 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 requirements:
 - (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 requirements.
 - (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. 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. 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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