

3745-81-70 **Monitoring requirements for disinfectant residuals.**

- (A) Each public water system required to monitor under this rule shall develop and implement a monitoring plan. The public water system shall maintain the plan and make it available for inspection by the director and the general public. All surface water systems serving more than three thousand three hundred people shall submit a copy of the monitoring plan to the director no later than the date of the first report required by rule 3745-81-75 of the Administrative Code. The director may also require any other public water system to submit such a plan. After review, the director may require changes in any plan elements. The public water system shall modify the plan as required by the director. The plan shall include at least the specific locations and schedules for collecting samples for any parameters included in this rule, and the plan shall include how the public water system will calculate compliance with maximum residual disinfectant levels (MRDLs). If a public water system is approved for monitoring as a consecutive system, or provides water to a consecutive system under the provisions of rule 3745-81-29 of the Administrative Code, its sampling plan shall reflect the entire distribution system. Failure to monitor according to the monitoring plan is a monitoring violation.
- (B) Public water systems shall take all disinfectant residual samples during normal operating conditions.
- (C) Failure to perform the required monitoring for total chlorine is a monitoring violation. The public water system will be in violation for the entire period covered by the running annual average.
- (D) All samples taken and analyzed under the provisions of this rule shall be included in determining compliance, even if that number is greater than the minimum required.
- (E) This paragraph applies to all community and nontransient noncommunity public water systems serving more than one thousand persons that treat their water with chlorine or chloramines for disinfection purposes. The monitoring requirements for total chlorine are as follows:
 - (1) Until March 31, 2016, the residual disinfectant level shall be measured at the same points in the distribution system and at the same time as total coliforms are sampled as specified in rule 3745-81-21 of the Administrative Code. However, surface water systems may use the results of residual disinfectant concentration sampling conducted under rule 3745-81-74 of the Administrative Code in lieu of taking separate samples.
 - (2) Beginning April 1, 2016, the residual disinfectant level shall be measured at the same points in the distribution system and at the same time as total coliforms are sampled as specified in rules 3745-81-51 and 3745-81-52 of the Administrative Code.
 - (3) Compliance shall be based on a running annual arithmetic average, computed quarterly, of monthly averages of all samples collected by the system under this rule. For total chlorine a public water system is in compliance with the MRDL when the running annual average of samples taken in the distribution system, computed quarterly, is less than or equal to the MRDL. If the average of the quarterly averages covering any consecutive four-quarter period exceeds the MRDL, the system is in violation of the

MRDL and must notify the public according to rule 3745-81-32 of the Administrative Code, in addition to reporting to the director according to rule 3745-81-75 of the Administrative Code.

- (F) This paragraph applies to all public water systems that treat their water with chlorine dioxide. The monitoring requirements for chlorine dioxide are as follows:
- (1) Chlorine dioxide levels shall be measured daily in samples taken at the entrance to the distribution system.
 - (2) Compliance shall be based on consecutive daily samples. A public water system is in compliance with the MRDL when daily samples are taken at the entrance to the distribution system and no two consecutive daily samples exceed the MRDL. If any daily sample exceeds the MRDL, the public water system shall take three chlorine dioxide distribution system samples on the following day. These three samples are in addition to the sample required at the entrance to the distribution system.
 - (a) If chlorine dioxide or chloramines are used to maintain a disinfectant residual in the distribution system, or if chlorine is used to maintain a disinfectant residual in the distribution system and there are no disinfection addition points after the entrance to the distribution system (i.e., no booster chlorination), the public water system shall take the three samples as close to the first customer as possible, at intervals of at least six hours.
 - (b) If chlorine is used to maintain a disinfectant residual in the distribution system and there is at least one disinfection addition point after the entrance to the distribution system (i.e., booster chlorination), the public water system shall take one sample at each of the following locations: close to the first customer; in a location representative of average residence time; and at a location reflecting maximum residence time in the distribution system.
 - (c) If any daily sample taken at the entrance to the distribution system exceeds the MRDL, and on the following day one or more of the three samples taken in the distribution system exceed the MRDL, the public water system is in violation of the MRDL. The public water system shall take immediate corrective action to lower the level of chlorine dioxide below the MRDL, and shall notify the public according to the procedures for acute health risks in rule 3745-81-32 of the Administrative Code in addition to reporting to the director according to rule 3745-81-75 of the Administrative Code.
 - (d) If any two consecutive daily samples taken at the entrance to the distribution system exceed the MRDL and all distribution system samples taken are below the MRDL, the public water system is in violation of the MRDL. The public water system shall take corrective action to lower the level of chlorine dioxide below the MRDL at the point of sampling and shall notify the public according to the procedures for nonacute health risks in rule 3745-81-32 of the Administrative Code in addition to reporting to the director according to rule 3745-81-75 of the Administrative Code.

- (3) Failure to monitor at the entrance to the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system is also an MRDL violation. The public water system shall notify the public of the violation according to the provisions for nonacute violations in paragraph (C) of rule 3745-81-32 of the Administrative Code.
 - (4) Failure to monitor in the distribution system the day following an exceedance of the chlorine dioxide MRDL at the entrance to the distribution system is also an MRDL violation and the system must notify the public of the violation according to the provisions for acute violations under paragraph (B) of rule 3745-81-32 of the Administrative Code.
- (G) Notwithstanding the MRDLs in rule 3745-81-10 of the Administrative Code, public water systems may increase residual disinfectant levels of chlorine or chloramines (but not chlorine dioxide) in the distribution system to a level and for a time necessary to protect public health, to address specific microbiological contamination problems caused by circumstances such as, but not limited to, distribution line breaks, storm run-off events, source water contamination events or cross-connections events.

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