

Executive Summary
Disinfection Requirements Rule
25 Pa. Code Chapter 109

Purpose of Final Rulemaking:

The Department of Environmental Protection (Department) is recommending this final-form rulemaking to amend the Safe Drinking Water regulations in 25 Pa. Code Chapter 109 to: (1) incorporate requirements needed to obtain or maintain primary enforcement authority, (2) provide for the increased protection of public health at public water systems (PWS), and (3) promote healthy and sustainable communities.

Summary of Amendments:

Obtain enforcement authority: Section 5(a) of the Pennsylvania Safe Drinking Water Act (35 P.S. § 721.5(a)) directs the Department to assume primary enforcement under the Federal Safe Drinking Water Act. This rule includes minor clarifications that are needed to obtain or maintain primary enforcement authority of certain Federal rules promulgated by the U. S. Environmental Protection Agency (EPA).¹ Chapter 109 was amended on December 26, 2009 (39 Pa.B. 7279) and on December 18, 2010 (40 Pa.B. 7212) to provide the Department the authority to implement these Federal rules.

Protect public health: This rule will protect public health through a multi-barrier approach designed to guard against microbial contamination by ensuring the adequacy of treatment designed to inactivate microbial pathogens and ensuring the integrity of drinking water distribution systems.

The following provisions differ from Federal requirements. The Department recommends these provisions to better protect public health and to be consistent with existing Pennsylvania drinking water regulations.

- The Department recommends a minimum residual disinfectant level at the *entry point* to be 0.20 mg/L by amending § 109.202(c)(1)(ii)(B). This ensures that water suppliers maintain a residual that is equal to or greater than 0.20 mg/L. Currently, levels of 0.15 to 0.19 mg/L round up to 0.2 mg/L and are in compliance. A level of 0.20 mg/L is necessary due to the importance of meeting CTs and maintaining an adequate disinfectant residual in the water entering the distribution system.² Also, this level of sensitivity is consistent with existing requirements for the Groundwater Rule (0.40 mg/L) as specified in § 109.1302(a)(2). Under the Federal rule (40 CFR 141.72(b)(2)), the minimum residual disinfectant level is 0.2 mg/L.
- The Department recommends requiring compliance with the minimum disinfectant residual level of 0.2 mg/L in the *distribution system* and strengthening monitoring and reporting requirements to protect public health and ensure equitable water quality for all consumers through amendments to §§ 109.202(c)(6) & (7), 109.301(1)(i)(E), (2)(i)(F) & (13); and 109.710(c) & (d). These provisions will become effective one year after the effective date of

¹ Stage 2 Disinfectants/Disinfection Byproducts Rule finalized on January 4, 2006 (71 FR 388), Long Term 2 Enhanced Surface Water Treatment Rule finalized on January 5, 2006 (71 FR 654), and the Lead and Copper Rule Short-Term Revisions finalized on October 10, 2007 (72 FR 57782).

² CT is the product of residual disinfectant concentration (C) and disinfectant contact time (T).

the regulation. Under the Federal rule (40 CFR 141.72(b)(3)), the minimum disinfectant residual level in the distribution system must be “detectable.” EPA does not define “detectable,” leaving interpretation to the states.

- Filter plants must maintain 90% (1-log) inactivation of Giardia cysts and 99.9% (3-log) inactivation of viruses using disinfection in § 109.202(c)(1)(ii)(A). When these levels are not achieved, consumers may be exposed to pathogenic Giardia cysts and viruses. The only way to determine compliance with this requirement is to perform log inactivation calculations, which is not required by current regulation. The Department recommends requiring monitoring and reporting of CT calculations to the Department in amendments to §§ 109.301(1)(v) & (vi) and 109.701(a)(2)(i)(C) & (D).³
- PWSs must currently notify the Department of certain violations within one hour under § 109.701(a)(3). The Department recommends requiring one-hour reporting of certain violations related to disinfectant residual requirements by adding § 109.710(e) to ensure that the Department and the public are alerted to potential problems as soon as possible so that appropriate investigative and corrective actions can be taken. The Federal rule generally requires self-reporting of violations to the state within 24 – 48 hours.
- The Department recommends adding § 109.716 to require a water system that uses chloramines as a disinfection process to develop and implement a nitrification control plan. This plan is in lieu of requiring a higher residual for systems that use chloramine to provide simultaneous control of microbes and nitrification.

Promote healthy and sustainable communities: Safe drinking water is vital to maintaining healthy and sustainable communities. Proactively avoiding incidents such as waterborne disease outbreaks can prevent loss of life, reduce the incidents of illness, and reduce health care costs. Proper investment in public water system infrastructure and operations helps ensure a continuous supply of safe drinking water, which enables communities to effectively serve existing residential, business and commercial customers, attract new customers and ensure their long-term sustainability.

Advisory Committee Review:

The draft final-form amendments were submitted to the Small Water Systems Technical Assistance Center (TAC) Board on July 13 and August 24, 2017. Comments were received from the TAC Board on August 24, 2017.

Public Comment Period and Public Meetings/Hearings:

The proposed rulemaking was published on February 20, 2016, with a 60-day public comment period. Public hearings were held in Harrisburg on March 28, 2016, in Norristown on April 5, 2016, and in Pittsburgh on April 7, 2016. Twenty public commentators and the Independent Regulatory Review Commission provided comments on the proposed rulemaking.

³ The final-form rulemaking recommends new monitoring and reporting requirements to ensure compliance with existing treatment techniques regarding log inactivation and CT requirements. Log inactivation is a measure of the amount of viable microorganisms that are rendered nonviable during disinfection processes. The CT value is used to determine the levels of inactivation under various operating conditions.