

PROPOSED RULEMAKING

DEPARTMENT OF ENVIRONMENTAL PROTECTION

[25 PA. CODE CHS. 93 AND 96]

Water Quality Standard for Manganese; Advance Notice of Proposed Rulemaking

The Department of Environmental Protection (Department) is soliciting information for the development of proposed amendments to Chapters 93 and 96 (relating to water quality standards; and water quality standards implementation) in response to a recent amendment to section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20), regarding the Environmental Quality Board (Board). This amendment directs the Board to promulgate proposed regulations related to manganese (Mn) within 90 days of its enactment on October 30, 2017. The Department, through this advance notice of proposed rulemaking (ANPR), is soliciting information necessary to prepare the rulemaking documents required by law to support the Board's adoption of the required proposed regulations. The information received in response to this ANPR will be used to evaluate the adequacy of the existing Mn water quality criterion when the point of compliance is moved to the location of an existing or planned surface potable water supply (PWS) withdrawal, as directed by the recent statutory amendment.

A. *Background and Purpose*

On October 30, 2017, subsection (j) was added to section 1920-A of The Administrative Code of 1929. This subsection states:

(j) The board shall promulgate regulations under the act of June 22, 1937 (P.L. 1987, No. 394), known as "The Clean Streams Law," or other laws of this Commonwealth that require that the water quality criteria for manganese established under 25 Pa. Code Ch. 93 (relating to water quality standards) shall be met, consistent with the exception in 25 Pa. Code § 96.3(d) (relating to water quality protection requirements). Within ninety days of the effective date of this subsection, the board shall promulgate proposed regulations.

The Department is seeking scientific and economic information to support the development of the required proposed regulations consistent with its duties under The Clean Streams Law (35 P.S. §§ 691.1—691.1001) and section 303 of the Federal Clean Water Act (33 U.S.C.A. § 1313) regarding water quality standards, and Commonwealth law requirements regarding the rulemaking process, including the Regulatory Review Act (71 P.S. §§ 745.1—745.14).

The specific water quality criterion for Mn established in § 93.7 (relating to specific water quality criteria) is a maximum of 1.0 mg/l as total recoverable. This standard was established to protect the critical use of PWS. The locations at which water quality criteria must be achieved are established in § 96.3 (relating to water quality protection requirements). The Mn criterion must be achieved in all surface waters at least 99% of the time under § 96.3(c). The recent statutory amendment directs a change to Chapter 96 to require that the Mn criterion be met at least 99% of the time at the point of all existing or planned surface PWS withdrawals under the exception in § 96.3(d) to the broader requirement in § 96.3(c).

The current Mn water quality standard has been in place since June 28, 1967. Since that time, scientific information has advanced and the Department is seeking any available scientific information to comprehensively review the Mn standard as it relates to the water uses identified in § 93.3 (relating to protected water uses). In particular, the Department will examine available scientific information to determine the need to develop Mn toxics criteria related to human health and aquatic life exposure, consistent with Chapter 16 (relating to water quality toxics management strategy—statement of policy). In addition, the Department will evaluate available scientific information to review the adequacy of the existing Mn water quality standard for the PWS use. Because the recent statutory amendment mandates that the PWS standard be met at a point of existing and planned surface PWS withdrawals, rather than the location of the wastewater discharge containing Mn, the Department will also evaluate the impacts to other more sensitive, intervening protected uses located between the discharge and the PWS withdrawal, including other water supply uses, recreational uses and aquatic life use.

Typically, the Department recommends a proposed rulemaking to the Board after it has collected sufficient information and data to prepare the necessary rulemaking documents to support the proposed rulemaking. In this instance, the proposed rulemaking is mandated by the amendment to section 1920-A of The Administrative Code of 1929 and must occur on an expedited schedule. Therefore, the Department is using the ANPR process to collect any available scientific information as quickly as possible to prepare the rulemaking documents required by the Regulatory Review Act. For example, the Regulatory Analysis Form required by the Regulatory Review Act and the Independent Regulatory Review Commission (IRRC) must include the following: whether the regulation will affect any other regulations of the promulgating agency or other State agencies; if the regulation is based on data, a description of the data, how it was obtained and how it meets the acceptability standard for empirical, replicable and testable data; estimates of the direct and indirect costs to the Commonwealth, to its political subdivisions and to the private sector; an identification of the types of persons, small businesses, business and labor communities, and other public and private organizations, and when practicable, an evaluation of the benefits expected as a result of the regulation; and for any proposed regulation that may have an adverse impact on small businesses, an economic impact statement. See section 5 of the Regulatory Review Act (71 P.S. § 745.5). The data and information collected through the ANPR process will assist the Department in answering these questions.

While water quality standards must be based on scientific data and information, the Department is also seeking available information on the economic impact of compliance with the Mn water quality standard at the point of existing or planned surface PWS withdrawals. This information will assist the Department with its obligation to prepare the Regulatory Analysis Form for submission to IRRC. IRRC has an obligation to determine whether regulations are in the public interest under the Regulatory Review Act. In making this determination, IRRC considers, among other things: the economic impacts of the regulation; the need to protect public health, safety and welfare; the effect on this Commonwealth's natural

resources; and whether the regulation is supported by acceptable data. See section 5.2 of the Regulatory Review Act (71 P.S. § 745.5b).

B. Specific Information Requested by the Department

1. Information regarding the Chapter 96 compliance point for the Mn standard

Section 1920-A(j) of The Administrative Code of 1929 obligates the Board to propose a regulation that changes the current requirement to achieve the Mn water quality criterion in § 93.7 in all surface waters under § 96.3(c) to require that the standard be met at the point of all existing or planned surface PWS withdrawals under the exception in § 96.3(d). This change may require public water systems to modify or install additional treatment technologies for Mn removal because these systems cannot allow more than 0.05 mg/l Mn in their finished drinking water. The United States Environmental Protection Agency (EPA) has established this limit as a secondary maximum contaminant level (MCL), which is an enforceable limit in this Commonwealth. Therefore, the Department is requesting the following:

a. Information from public water systems relating to existing raw source water and finished water Mn concentrations, the percentage of Mn removal being achieved and the existing treatment processes that are in use. Include this information regardless of whether the primary purpose of the treatment process is for Mn removal. Also include information about current design or operational limitations and current treatment costs.

b. Information relating to additional treatment processes, modifications to existing treatment processes or operational changes that a public water system would need to achieve the required Mn secondary MCL of 0.05 mg/l in its finished drinking water when its raw source water contains 1.0 mg/l of total recoverable Mn. Include an estimate of increased costs including capital costs, annual operation and maintenance costs, and costs for sludge disposal.

c. Other information relating to the financial and economic impacts of no longer achieving the existing Mn criterion of 1.0 mg/l at least 99% of the time in all surface waters of the Commonwealth under § 96.3(c).

d. Costs or savings, or both, to the regulated community, including small businesses and State and local governments, of achieving the existing Mn criterion of 1.0 mg/l at least 99% of the time at the point of existing or planned PWS withdrawals under § 96.3(d), rather than in all surface waters under § 96.3(c).

e. Environmental or social, or both, costs and benefits associated with changing the point of compliance for the existing 1.0 mg/l numeric criterion for Mn from § 96.3(c) to § 96.3(d).

2. Information related to the adequacy of the existing PWS Chapter 93 Mn standard

A water quality criterion established in Chapter 93 to protect a surface water for use as a PWS is not always the same as an MCL that a public water system must achieve in its finished drinking water under the Pennsylvania Safe Drinking Water Act (35 P.S. §§ 721.1–721.17) and Chapter 109 (relating to safe drinking water). A surface water that attains water quality criteria in Chapter 93 established to protect the PWS use can be used by a public water system to provide acceptable drinking water after conventional treatment. See the definition of PWS in § 93.3. Thus, a PWS water quality criterion must be set at a level to provide acceptable

drinking water after conventional treatment. Conventional treatment is defined in § 93.1 (relating to definitions) as coagulation, followed by filtration for the removal of solids, and disinfection for the control of pathogens to produce water for drinking and other human consumption.

Drinking water MCLs can and have been used by states, including the Commonwealth, as a basis for establishing surface water quality standards. The current enforceable drinking water secondary MCL for Mn is 0.05 mg/l. With the change in the point of compliance for the Mn water quality standard, the Department is seeking information on the adequacy of the existing Mn standard of 1.0 mg/l. The Department is requesting the following:

a. Published scientific studies relating to Mn to evaluate the adequacy of the existing Mn water quality criterion of 1.0 mg/l in § 93.7 given the pending removal of the requirement to achieve this criterion in all surface waters at least 99% of the time.

3. Information related to the development of additional Chapter 93 Mn standards for other protected uses

The Department will examine peer-reviewed, scientific studies relating to Mn to evaluate the need for the development of additional Mn standards for the protection of other, more sensitive, intervening water uses protected under Chapter 93 including human health, other water supply uses, recreational uses and aquatic life use.

Human health criteria for toxic substances

Manganese possesses toxic characteristics according to information available in the scientific literature and as described in the EPA Integrated Risk Information System (IRIS) database. Some studies suggest elevated levels of Mn may lead to neurological deficits in children, including poor school performance, impaired cognitive function, diminished memory, abnormal performance on neuro-behavioral tests, motor impairments, and increased oppositional or aggressive behavior and hyperactivity. Therefore, the Department is seeking the following:

a. Peer-reviewed, published toxicological studies, reports and data on human health effects resulting from exposure to Mn in water.

Other water supply and recreational uses

Other water supply uses protected under the Commonwealth's water quality standards in § 93.3 include industrial, livestock, wildlife and irrigation water supply uses. In addition, use of surface water for recreational uses, including boating, fishing, water contact sports and esthetics, are protected. While the current standard was developed specifically for PWS protection, it has also provided protection for these other designated uses. With the removal of the requirement that the existing Mn water quality standard be achieved in all surface waters at least 99% of the time, the Department must determine whether a new Mn standard is necessary to protect other water supply and recreational uses that may exist on surface waters that do not have existing or planned PWS withdrawals. To make this determination, the Department is requesting the following:

a. Information related to the water quality needs or potential impacts to other water supply and recreational uses that may be exposed to Mn levels greater than 1.0 mg/l in surface waters.

b. Any technical studies, reports or data related to Mn removal technologies that may be necessary to protect

other water supply users (for example, industrial, livestock, aquaculture, wildlife, irrigation, and the like).

Fish and aquatic life use

Manganese is toxic to most aquatic life including fish, freshwater mussels and aquatic insects. The concentrations necessary to induce lethal and sublethal effects appear to vary by species and life stage. Studies on freshwater species have suggested, at least for some organisms, that relationships exist between toxicity and other water quality parameters such as temperature, hardness and pH. A Mn water quality standard to protect aquatic life does not currently exist in this Commonwealth. Therefore, the Department is requesting the following:

a. Published aquatic life toxicity studies that are representative of Pennsylvania species and waterbodies.

C. How to Provide Data and Information

Written or electronic documents will be accepted. Electronic documents may be submitted through eComment at <http://www.ahs.dep.pa.gov/eComment> or by e-mail to RegComments@pa.gov.

Written documents should be sent to the Department of Environmental Protection, Policy Office, 400 Market

Street, P.O. Box 2063, Harrisburg, PA 17105-2063. Documents must be received by February 26, 2018. A subject heading must be included noting that the document is being submitted in response to the Advance Notice of Proposed Rulemaking for Water Quality Standard for Manganese. A return name and address must be included in each letter or transmission. Documents will not be accepted by facsimile or voice mail.

D. Contact Persons

For further information, contact Thomas Barron, Bureau of Clean Water, 11th Floor, Rachel Carson State Office Building, P.O. Box 8774, Harrisburg, PA 17105-8774, (717) 787-9637; or Michelle Moses, Assistant Counsel, Bureau of Regulatory Counsel, 9th Floor, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, (717) 787-7060. Persons with a disability may use the Pennsylvania AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This ANPR is available on the Department's eComment web site at <http://www.ahs.dep.pa.gov/eComment>.

PATRICK McDONNELL,
Secretary

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