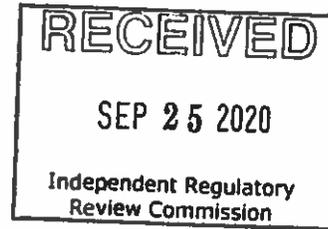


Melanie Horvath,
Director, Government and
Regulatory Affairs

September 23, 2020

Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477
RegComments@pa.gov



RE: Comments on Water Quality Standards for Manganese and Implementation of #7-553; IRR #3260

Dear Members of the Environmental Quality Board:

Pennsylvania American Water provides for your review and consideration the following comments on the proposed rulemaking (25 PA. CODE CHS 93 AND 96) for Water Quality Standard for Manganese and Implementation published in the Pennsylvania Bulletin.

Overview

With the passage of Act 40 of 2017, the Environmental Quality Board (EQB) of the Pennsylvania Department of Environmental Resources (DEP) was charged with promulgating regulations pertaining to Manganese. Subsection(j) (Act 40 of 2017) was added to section 1920-A of the Administrative Code of 1929 and 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 90 days of the effective date of this subsection, the board shall promulgate proposed regulations.

In responding to the legislative mandate, the EQB offers two alternatives in its proposed rulemaking, to which we are responding. The first alternative, consistent with Act 40 of 2017, moves the point of compliance to the point of all existing or planned surface potable water supply withdrawals, essentially shifting responsibility for maintaining manganese limits from the discharger to the first downstream public water supply intake. That change would result in the customers of the water supplier picking up the tab for increases in treatment and compliance costs because higher levels of manganese would be released into the water supply. Additionally, it would create a delta of water containing higher levels of manganese, compromising aquatic life between the point of discharge and intake.

The second alternative, consistent with the Clean Streams Law, is to maintain the existing point of compliance in all surface waters (i.e., at the point of discharge). The second alternative amends Chapter 93 by proposing the adoption of a numeric water quality criterion for manganese designed to protect human health. This standard would be added to § 93.8c Table 5 (Water Quality Criteria for Toxic Substances), and the existing Potable Water Supply criterion of 1.0 mg/L, found in § 93.7 Table 3 would be deleted. The proposed human health criterion of 0.3 mg/L is designed to protect human health from the neurotoxicological effects of manganese when levels necessary to maintain adequate health are exceeded.

Legislative Intent

While Pennsylvania American Water cannot speak to the General Assembly's legislative intent, it can address the multiple unintended consequences of Act 40 of 2017 and how they merit a broader understanding and reexamination. Most important, however, the following comments outline why it is paramount that any change to the current manganese level must be based on current toxicological data and science.

The change embedded in Act 40 would shift the burden for treating manganese discharges from active mine sites and other sources to downstream users and public water suppliers. The proposed change will also have a significant environmental impact on Pennsylvania waterways and impose additional testing, monitoring, and treatment at public water supply operating facilities.

Just as the General Assembly has the responsibility to ensure that the laws it passes protect the environment, the Department has an obligation to review and update water quality standards to reflect current scientific knowledge and understanding. Manganese discharges to the waters of the Commonwealth were last evaluated by the Commonwealth in 1967. With new criteria released from the United State Environmental Protection Agency (EPA) demonstrating that excessive amounts of manganese can be a neurotoxin to humans, it is imperative that any change to the laws and subsequent regulatory requirements take into account and comply with regulations based on the latest available science and data when promulgating regulations.

Economic and Fiscal Impact on the public and private sector

In February 2018, Pennsylvania American Water was one of 15 organizations that responded to the Department's Advance Notice of Proposed Rulemaking (ANPR) published at 48 Pa. B 605 (January 27, 2018). The ANPR requested information ranging from scientific data to financial impact and analysis.

Under the proposed first alternative (Act 40 of 2017) - which moves the point of compliance - Pennsylvania American Water estimates that change would result in a \$40-\$60 million price tag that would ultimately be paid by our customers through higher rates.

With 68 permitted water supply systems, Pennsylvania American Water identified 16 plants which would be challenged if confronted with increased levels of raw water manganese. At least eight (8) of those plants would have a higher probability of occurrence and would be negatively impacted to the point of requiring treatment plant modifications. The aggregate capacity of the eight (8) identified plants is in the range of 40 MGD. The estimated costs for plant upgrades ranged in the \$1-\$1.5 million per MGD, equating to an overall one-time capital investment in the \$40-60 million range (that figure does not include the anticipated 5-10 percent (\$700,000 - \$1.4 Million) annual increase in chemical costs or monitoring).

The second alternative, also not without significant cost, proposes a lower standard (0.3 mg/L), maintains the current point of compliance, deletes manganese from Table 3 in §93.7 (relating to specific water quality criteria) and adds manganese to Table 5 in §93.8 c (relating to human health and aquatic life criteria for toxic substances). The lower standard is in line with EPA's Health Advisory Level (HAL) of 0.3 mg/L and is based on EPA's Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000).

Monitoring and treatment costs associated with the EQB's proposed 0.3 mg/L standard will be significant for water suppliers who also have a National Pollutant Discharge Elimination System (NPDES) as they must comply with manganese standards when they filter backwash and discharge under their permit. However, meeting the standard in the NPDES permit would not be as costly to water suppliers and their customers as it would be under Act 40 of 2017 with the change in the point of compliance.

Protection of the public health, safety, and welfare

Alternative 1 (Act 40 of 2017), which would change the point of compliance to the point of withdrawal, not only shifts the burden of treatment costs and control to downstream users such as public water suppliers and their customers, but it potentially puts at risk the health of those living downstream – particularly fetuses and bottle-fed infants younger than six months as well as aquatic life situated between the point of discharge and the point of potable water supply withdrawal.

Alternative 2, as proposed by the Department, establishes a new manganese standard (0.3mg/L), but maintains compliance at the point of discharge and reflects the current science and data recommended by EPA in their Health Advisory for manganese.

Acceptable Data as Basis for Regulation

As Pennsylvania American Water was not aware of the data used to support the basis for Act 40 of 2017, the company can only comment on the science and data applied for establishing guidelines and changes in Alternative 2 as proposed by the Department.

In determining the impact of manganese on humans, the Department has indicated it has reviewed over 60 human health studies relevant to the toxic effects of manganese and included areas of epidemiology, epigenetics and animal toxicity studies, including information available through EPA's Integrated Risk Information System (IRIS) database. Based on their review, the Department indicates that manganese levels beyond those necessary to maintain adequate health, has been identified as a nervous system toxin and has been specifically linked to negative impacts on fetal and childhood neurodevelopment.

Additionally, to determine the 0.3 mg/L, the Department relied on EPA's existing IRIS data for manganese and followed the EPA's Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health. As indicated by those factors, the proposed criterion of 0.3 mg/L is expected to protect human health from the threshold level toxic effects of manganese (that is, developmental neurotoxicological effects).

Clarity, feasibility, and reasonableness of the regulation

Water suppliers currently monitor for manganese in their source water and treat to meet current mandates. At relatively low concentrations (0.05 mg/L or greater), manganese can cause discolored water, staining of laundry and plumbing fixtures as well as increased turbidity. At higher levels (0.1mg/L or greater), manganese can create a metallic taste in water. Moving the point of compliance as well as increasing allowable discharge by 20 times the current level as provided for in Act 40 of 2017 would compound the inherent challenge in properly treating manganese. The second alternative as proposed by EQB will also require additional monitoring and compliance costs, as the standard for discharges is proposed at 0.3 mg/L. Given the inherent challenges in treating manganese, the feasibility and reasonableness of both alternatives have yet to be determined.

Conclusion

Pennsylvania American Water supports EQB's proposed amendment to delete manganese from Table 3 in §93.7 (relating to specific water quality criteria) and adding manganese to Table 5 in §93.8c (relating to human health and aquatic life criteria for toxic substances). In so doing, the proposed 0.3 mg/L toxic health standard would apply to all discharges released into surface waters, which addresses the health, environmental and aquatic concerns outlined in the above comments and assures that the dischargers are held responsible for their discharges.

Thank you in advance for your consideration.

Sincerely,



Melanie R. Horvath
Director, Government and Regulatory Affairs