



COMMONWEALTH OF PENNSYLVANIA
PUBLIC UTILITY COMMISSION
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ANDREW G. PLACE
VICE CHAIRMAN

February 26, 2018

Pennsylvania Department of Environmental Protection
Office of Policy
Rachel Carson State Office Building
400 Market Street
Harrisburg, PA 17101

Re: Advance Notice of Proposed Rulemaking: Water Quality Standards for
Manganese- Submitted via eComment

Secretary McDonnell:

This Advance Notice of Proposed Rulemaking provides a much-needed opportunity for data gathering and comment on a provision of the Administrative Code for which there was limited discussion and debate prior to becoming law. The language and standards set forth in Act 40 shifts compliance and associated costs from the upstream discharger to downstream water utilities. Though I find these requirements to be an inequitable shift of financial costs and not protective of public interest I respect that the role of the Department is to now move forward with a rulemaking as directed by law. To this end I highlight the potential impacts to water utilities and consumers and recommend enhanced monitoring and coordination between dischargers and utilities and ask that the resulting shift from point of discharge compliance to intake compliance be carefully considered for optimality. It may also be prudent to promulgate alternative compliance measures for dischargers of Manganese.

As was made apparent by the Department's choice to proceed with an Advance Notice of Proposed Rulemaking, rather than immediately providing a draft for comment, the DEP appears to clearly acknowledge the potential for significant consequences for Pennsylvania's water supplies, environment and residents. This is a difficult task to undertake and I applaud the Department for seeking comments and data early in the regulatory process.

The language in Act 40 directs the Environmental Quality Board to create a new regulation that would allow higher levels of Manganese to be discharged into streams which shifts the burden for meeting water quality standards from the point of discharge to the point of intake (e.g. drinking water systems). This will result in harmful environmental health impacts in addition to impacts on public drinking water systems that have intakes downstream from Manganese discharges. This is a significant shift from past practice and will result in a significant burden for affected drinking water systems to more closely monitor, and control Manganese levels in finished drinking water, prior to its distribution.

Increased costs to companies and customers

Pennsylvania has more than 2,200 community drinking water systems, many of which are small water systems serving fewer than 3,300 consumers. The PUC regulates the rates and service of approximately 135 water and wastewater companies, serving 1,420,143 customers.

The 1 milligram/liter standard established in Act 40 is twenty times the level of Manganese that water suppliers are permitted to have in their water supplies, according to EPA's Secondary Maximum Contaminant Levels. This shift in responsibility will require a significant financial investment for affected treatment systems and may require additional training and potentially new certification for staff. There are many water systems in Pennsylvania for which this regulatory requirement will mandate installation of additional costly systems to remove

excessive Manganese. Additionally, the companies and plants which currently manage Manganese may have additional capital costs, depending on influent levels and will certainly have increased operation and maintenance costs as a result of the additional chemicals, monitoring and training necessary to ensure safe and reliable water for their customers.

In its comments upon the introduction of the Manganese provision in Act 40, the Local Government Association estimated that for a small water treatment plant:

“... a municipal water authority operating a 1 MGD (million gallons/day) water treatment plant, estimated an additional annual cost of \$20,000 just for chemical usage (Potassium Permanganate) to treat manganese.”

They also noted that diligent monitoring and sampling would be required by operators to ensure removal to prevent unpleasant taste and odor, discoloration and staining, and potential health impacts from high Manganese levels.

Additionally, water companies, such as PA American Water, based on their service territory, are expecting to experience significant impacts including between \$40 to \$60 million dollars in initial capital costs, and up to an additional \$1.4 million annually for operation and maintenance. This would include chemicals and additives, additional system maintenance including more frequent sludge removal, and flushing and cleaning of the system, in addition to increased compliance monitoring.

There will also likely be an increase in drinking water quality impacts. Prior to introduction of this language, some water companies were already struggling with excessive Manganese, with customers complaining of “tea colored” water.

These new requirements may also add to the difficulty in staying compliant with disinfection residuals while treating for Manganese, which will complicate the treatment process and require additional testing and monitoring.

All of these costs can reasonably be expected to be passed onto ratepayers. No comprehensive analysis has been done to date on the impacts to Pennsylvania's customers, but with the complexity of the removal process for Manganese, costs are likely to be significant. This will disproportionately impact smaller water systems, many of which are already struggling.

In addition to increased compliance costs, there are significant concerns regarding health and environmental impacts.

Not Protective of Public Health or the Environment

As a member of the Public Utility Commission, part of my responsibilities is to uphold the mission of the Commission which includes protecting the public interest and educating consumers. These levels as outlined in Act 40 are not protective of consumers nor the environment.

The U.S. Environmental Protection Agency (EPA) has clearly identified health risks, many of which are neurological in nature, associated with increased Manganese ingestion. U.S. EPA's Secondary Maximum Contaminant Level (secondary MCL) standard for water system intake is 0.05 mg/L.¹ Additionally, U.S. EPA has set a manganese Health Advisory Level of 0.3 mg/L, and the World Health Organization has set a manganese health guideline level of 0.4

¹ U.S. EPA- Office of Water, Health and Ecological Criteria Division- *Drinking Water Health Advisory for Manganese*, 2004. https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_dwreport_0.pdf

mg/L.² All of these clearly identify how a requirement of 1mg/L at intake is completely out of bounds with both national and international standards set by the governmental bodies charged with protecting public health and the environment. Additionally, with the regulatory burden shifted from the discharger to the intake point, there is a significantly higher risk of health impacts, especially to sensitive populations including children and the elderly, and of water quality issues such as taste, color and odor.

Considering the potential for significant financial, health and environmental impacts to all Pennsylvanians I offer the following recommendations for consideration:

(1) **Make the Manganese Rule Optional-** This shift for compliance at intake rather than discharge is now provided for by law, but I would encourage DEP to require companies discharging Manganese to opt-in to take advantage of this provision rather than assume a transition for all dischargers. If a discharger has associated Manganese limits, or the water body has a Total Maximum Daily Load associated with Manganese, provide the option for those stricter limits to remain in place.

(2) **Establish Comprehensive In-Stream Monitoring-** Manganese has the significant potential for adverse environmental and health impacts, necessitating frequent monitoring of levels at discharge and at instream points between the point of discharge and the intake point. Though compliance is shifted to the downstream water intake, dischargers should be required to

² WHO, 2004 (PDF), Manganese in Drinking-water, Background document for development of WHO Guidelines for Drinking-water Quality, World Health Organization, 2004. See also: WHO, Chemical Hazards in Drinking Water - Manganese.

monitor and model the allowable range of discharges based on time of day, year, flow, designated stream uses etc. so that they can ensure a rate of less than 1 mg/L at intake. This monitoring should be at the expense of the dischargers, with real-time in-stream data provided automatically to the downstream water companies.

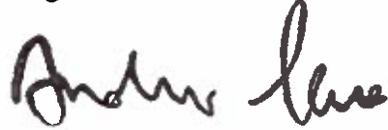
(3) **Require Emergency Response Plans-** Dischargers should be required to develop emergency response plans, denoting the process and procedures by which they notify downstream water companies of events or discharges that may impact the Manganese requirement and general water quality at intake. The dischargers should develop these plans in concert with the affected water companies and should require PA Department of Environmental Protection approval.

(4) **Develop A Clear Compliance Framework and Strict Penalties-** With this significant loosening of environmental and health protections, a clear and punitive regulatory framework for associated violations needs to be established. This should include the ability of water companies to be reimbursed by the discharger for any exceedances of the 1.0 mg/L at intake to cover the associated increased costs and damage to water company equipment as a result of the exceedance. These costs should be in addition to any remuneration to the DEP.

The Revised Manganese Rule has significant potential for negative impacts, most concerning being the potential for health impacts, and the associated difficulty and cost of adequate treatment. I submit these recommendations respectfully with the expectation that the Department will fulfill their mission and to the greatest extent possible limit the potential harm to

Pennsylvania residents, environment and businesses. I greatly appreciate the opportunity to comment and will continue to follow this rulemaking with great interest and concern.

Regards,

A handwritten signature in black ink, appearing to read "Andrew Place". The signature is written in a cursive, flowing style.

Andrew G. Place, *Vice Chairman*
Pennsylvania Public Utility Commission