



3260

P.O. BOX 138

Pottsville, PA 17901

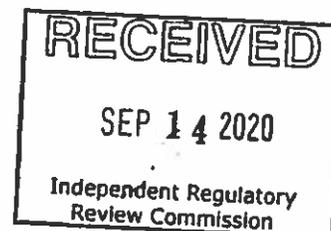
Phone: 717-737-9825

Email: hardcoalorg@paanthracite.com

COUNCIL

September 14, 2020

PA Department of Environmental Protection
Policy Office
400 Market Street
P.O. Box 2063
Harrisburg, PA 17105-2063



Re: Proposed Rule Making for Water Quality Standard for Manganese (Mn)

Dear Secretary McDonnell:

I am writing on behalf of the more than 3,000 men and women who earn their living in the mining and support of Pennsylvania's anthracite mining industry. I am writing in response to publication of your notice of rulemaking which appeared in the July 25, 2020 issue of the Pennsylvania Bulletin.

Observation of the Proposed Rulemaking

1. This is the first time in my memory that I have ever seen the Department draft a menu of regulatory options. Option one, changes the point of compliance for manganese to the point of withdrawal for potable water sources. While the proposed language complies with the letter of the law, it completely ignores the spirit and intent of the legislature's direction by classifying manganese as a toxin.

Option two, requires that at 0.3 mg/L discharge criteria be met at the point of discharge putting a further burden on the mining industry. Option two totally ignores the legal standard established by the legislature in 2017 and appears to be the personal preference of unelected staff members within the Department's Bureau of Clean Water (BCW).

2. By seeking to name manganese as a toxin, the Department is completely out of step with the EPA and other states, none of which regulate manganese as a toxin. This regulatory overreach comes at a time when the Federal government is working to substantially reduce the regulatory work load on businesses around the county so that people can make a living and provide for their families.

3. The studies and the information compiled by the Department to justify their position shows an extreme confirmation bias by referencing studies from countries like WWII Japan, South Korea, Bangladesh and other less developed nations. These studies do not discuss other social and physical factors beyond manganese that also contribute to negative health issues.

Further, the Proposed Rulemaking does not make a single reference to other coal states and how they treat manganese within their borders.

4. In citing some of the studies the BCW references in its Proposed Rulemaking, the Department seems to be less certain in the results they are referencing. They express this uncertainty with a number of weak qualifying statements.

The Department seeks to move forward with a regulation that creates a toxin that no other state or the EPA has recognized as a toxin. The BCW recommendation is based on studies that “*suggest*,” “*is Unclear*” and are “*hampered by a lack of data.*” This is neither good science nor good environmental policy and it will be harmful to Pennsylvania businesses and workers.

Manganese Rule Making Background and Anthracite Industry Position

On October 30, 2017, Governor Tom Wolf signed HB 118 into law as Act 40 of 2017. The Act directed the EQB to propose and advance rulemaking which will bring Pennsylvania manganese effluent standards in line with Federal guidelines and those of surrounding coal states like Ohio, Kentucky and West Virginia.

Following the signing of Act 40 of 2017 into law, the Pennsylvania Anthracite Council (PAC) submitted a written request to the EQB requesting that 25 PA Code 96.3 (d) be amended to include manganese as an exception to subsection (c).

In our comment letter to the EQB, we pointed out that the water quality standard found in 25 PA Code 93 is a Potable Water Standard (PWS) and not an effluent limitation. As such, it is a water quality standard that must be attained after treatment. The discrepancy between effluent limitations for mining criteria and PWS results in the misapplication of the PWS criteria when an operator seeks a National Pollution Discharge Elimination System (NPDES) permit.

Chapter 87 and 88 mining regulations only require mine operators to treat manganese to 2.0 effluent standard. Holding mine operators to the more stringent Chapter 93 standard in areas that will have “zero impact” on any potable water source creates an unnecessary cost burden on operators while providing no noticeable environmental or consumer protection.

For example, as required by regulation, one anthracite mining company located in Tamaqua, Schuylkill County is treating for Manganese at its mine discharge to the 1.0 standard. It is placing its treated discharge into the Little Schuylkill River which is one of numerous tributaries of the Schuylkill River.

According to the United States Geological Survey (USGS) from 2013 to 2017 the average daily mean water flow in the Little Schuylkill River averaged between 64.5 and 84.9 cubic feet per second (CFS). However, by the time it reached its nearest PWS intake, 73 driving miles from the treated discharge, the flow had increased to an average daily mean ranging from 2,276 to 3,245 CFS. By the time it reaches the first PWS we have been able to identify intake downstream, the water flow has increased by a factor of more than 38 times the flow in Tamaqua.

Additionally, the average daily Manganese treated water flow exiting the Tamaqua mine site during the same period of time has averaged 12.1 CFS. By the time it reaches the point of the first intake on the Schuylkill River, the treated discharge represents about 0.0053 percent of the entire system’s flow volume.

We have not been able to find any testing figures for Manganese at the PWS intake. However, at 73 driving miles distant, we believe it is safe to say that any water treated for manganese in Tamaqua will have dropped out of suspension or long been diluted by the time it reaches the PWS intake.

In fact, given the distance and the volume of water diluting the treated manganese discharge from its introduction in Tamaqua until its first withdraw 73 miles away, it is highly unlikely that even if treated to the Federal standard of 2.0 mg/l that it would have any noticeable impact on the PWS drawing from the Schuylkill River.

Additionally, once the regulation is amended, Manganese will still be regulated and treated but on a more site-specific basis. Companies, like the one in Tamaqua who want to treat Mn to a 2.0 will still be required to update and amend their TMDL plans. At that point PWS withdraw sites can be identified and those mining and treatment operations which may be located at an unsafe distance may still be required to continue to meet the 1.0 standard or somewhere in between.

September 14, 2020
PA Anthracite Council Mn Comments
Page Four

Amending 25 PA Code 96.3 (d) to include manganese will have no noticeable impact on public drinking water supplies but it will provide significant financial relief to employers mining coal who are required to treat manganese on their sites to a needless more stringent standard.

DEP Bureau of Clean Water Response to Act 40 of 2017

The proposed rulemaking provided by the Bureau of Clean Water (BCW) is at a both puzzling and problematic on several levels which I outlined early in my comments. This is especially more so in light of the clear direction Act 40 of 2017 provides.

The Act 40 of 2017 which directed the EQB to propose a regulation requiring that the water quality criteria for manganese be met consistent with the exception in 25 Pa. Code § 96.3(d), effectively moving the point of compliance for manganese from the point of discharge to any downstream public water supply withdrawal.

In response, the EQB directed the DEP Bureau of Clean Water to provide regulatory language to the board to which will bring the rules for Manganese into line with the Federal guidelines. The DEP then responded to the EQB's request by submitting two separate alternate options neither of which complies with the spirit or intent of Act 40 of 2017.

First Alternative Point of Compliance Proposal

The DEP Bureau of Clean Water has proposed two (2) different point of compliance alternatives, one that complies with Act 40, and one that does not. The first alternative is a proposed regulation that changes the point of compliance for manganese in Chapter 96 from "being achieved in all surface waters" to being met "at the point of all existing or planned surface potable water supply withdrawals."

The Department has drafted the following regulatory language:

d) As an exception to subsection (c), the water quality criteria for total dissolved solids, nitrite-nitrate nitrogen, phenolics, chloride, sulfate and fluoride established for the protection of potable water supply and the water quality criterion for manganese shall be met at least 99% of the time at the point of all existing or planned surface potable water supply withdrawals unless otherwise specified in this title.

Potable vs. Non-Potable: Under this alternative, if no potable water supply exists or is planned then no water quality-based effluent limits will apply. However, Federal ELGs would still apply to the mining discharges, as would the limits set in 25 Pa Code Chapters 87, 88, 89 and 90. For all other point source discharges of manganese there would be no water quality criteria or Federal ELGs to limit the amount of manganese discharged into the surface water.

Also, under this scenario, dischargers would have no water quality-based effluent limit applied to their discharge of wastewater containing manganese. If a potable water supply withdrawal does exist downstream of a manganese discharge, the proposed water quality criterion for manganese will only apply at the potable water supply intake.

This scenario, which would establish the point of compliance for the proposed manganese criterion at the point of potable water supply intake, would grant some financial relief to any permitted discharger of manganese due to reduced wastewater treatment costs. Under this alternative the proposed human health criterion for manganese will not apply unless a potable water supply withdrawal is located on the surface water.

If a potable water supply is located on the stream, a discharger's point of compliance with the proposed manganese criterion will be modelled from the upstream point of discharge to the point of potable water supply withdrawal, allowing for attenuation of the effluent as it travels downstream. The discharger's effluent limitation would be determined based on achieving the proposed manganese criterion of 0.3 mg/L at the point of potable water supply intake.

According to the DEP, if this proposed criterion is adopted "*those holding or seeking permits to discharge Manganese into surface waters of Pennsylvania will benefit.*" Has the Department done or is it planning to do a Reasonable Potential Analysis of its proposed rule change?

Second Alternate Point of Compliance

The second method of compliance the Department is considering would be applied to all surface waters to protect "*all relevant uses in accordance with 96.3 (c). This would require that 0.3 discharge criteria be met at the point of discharge.*"

The Department proposes the following language to implement the second alternative:

(c) To protect existing and designated surface water uses, the water quality criteria described in Chapter 93 (relating to water quality standards), including the criteria in §§ 93.7 and 93.8a(h) (relating to specific water quality criteria; and toxic substances) shall be achieved in all surface waters at least 99% of the time, unless otherwise specified in this title. The general water quality criteria in § 93.6 (relating to general water quality criteria) shall be achieved in surface waters at all times at design conditions.

According to the preamble, if manganese concentrations in the source water are greater than 1.0 mg/L there would be a new need for pre-treatment to reduce the level of manganese to an acceptable level for fish culture.

Under this alternative, the DEP argues that *“additional protections will be provided to the Potable Water Supply use and other protected water supply uses (e.g., Irrigation, Livestock Water Supply and Wildlife Water Supply). Furthermore, cost savings may be realized by public water systems, as manganese levels in source waters will be lower, and less treatment will be necessary to meet drinking water regulations.”*

Analysis

While the first alternate point of compliance proposal does comply with the letter of Act 40 of 2017, it totally ignores the intent of the legislature by adding manganese to the table of Human Health and Aquatic Life Criteria for Toxic Substances of 0.3 mg/L in 25 Pa Code Chapter 93.

Further, the Department has taken a position that if a water supply withdrawal does exist downstream from a manganese discharge site, the proposed new criteria will be modelled from the upstream point of discharge and account for attenuation of the effluent and it travels downstream.

The discharger’s effluent limitation would be based on achieving the proposed criteria of .3 mg/L at the point of the potable water intake. Manganese does not remain suspended in stream for any significant length of time and typically settles out within a mile or so of a discharge source.

No anthracite coal mine operations currently discharge water treated for manganese anywhere close to potable water withdrawal/intakes. As written, this proposed standard will have an adverse impact on anthracite mining operations with little or no environmental benefit.

Naming manganese a toxin and requiring treatment that is far greater than necessary will create a disincentive for mine operators in the anthracite region from re-mining abandoned coal mine sites where they may encounter water treatment liabilities.

The second alternate point of compliance proposed by the DEP does not comply with Act 40 and continues to keep the burden of treatment and compliance on mine operators. The Department acknowledges that using this basis of compliance to meet new effluent limitations costs to treat *“may exceed that which is required under existing guidance.”*

Further with this acknowledgement, the Department provides absolutely zero analysis on the economic impact of implementing such a rule change. This regulatory language is equally harsh and will result in the same impact as pointed out in option number one.

However, when reviewing the rulemaking, the second alternative does seem to be the choice favored by the Department. The Department states if the first alternative point of compliance is adopted, *“those holding permits or seeking permits to discharge manganese into the surface waters of Pennsylvania will benefit. If the proposed criterion (.3 mg/L) is adopted and the second point of compliance alternative is adopted, all users of surface waters will benefit.”*

Industry Concerns

A careful review of the language of the both alternatives and the Executive Summary reveals several concerns that the Department we believe must address before moving forward with this proposed rulemaking.

A Novel Approach to Rule Making: First and foremost, the EQB must make a decision which alternative regulatory language it will choose to promulgate. Will it be option #1 which changes the point of compliance to the point of the planned withdrawal or will it be option #2 which requires the discharge criteria be met at the point of discharge?

In my 25 years of reviewing and commenting on proposed state and Federal regulations for the anthracite industry, I have never seen the Department or any government agency present a menu of rulemaking options to the public for comment and the EQB to choose from.

This is a first and novel way of developing rulemaking. I wonder if this is a one-time approach or part of a new trend on the part of the BCW and the Department. While option one does somewhat comply with the letter of law by shifting compliance to the point of intake, it ignores the spirit of the law by exceeding Federal guidelines by labelling manganese a toxin.

However, option two, which seems to be the favored approach by the Department, totally ignores both the spirit and the intent of the law. In 2004, EPA recommended **a non-enforceable** lifetime health advisory (HA) level of 0.3 mg/L for chronic exposure to manganese and a 1-day and 10-day HA of 1 mg/L for acute exposure.

Option number two seeks to tighten Manganese treatment standards based on a **“recommendation”** by the EPA and is not a Federal requirement. It completely disregards the will of the citizens of the Commonwealth through their elected leaders.

Presenting the public and the EQB with two different options is not consistent with the laws governing the rulemaking process and should be abandoned. For that reason, Option two should not even be considered by the EQB because it fails to meet the statutory language set forth under Act 40 of 2017.

More is Not Always Better Than Less but More is Needed Here The Department lays out its rationale for the proposed changes to Manganese in its Proposed Rulemaking. The summary does not rely on any in-house studies done by the Department or any other state agencies, but rather the Department cites numerous studies done by outside sources. In many cases those studies were conducted in third world countries like Bangladesh, rural Canada and far east countries like Japan and South Korea.

For example, according to a paper published in 2003 by the EPA titled, "Health Effects Support Document for Manganese" makes the following statement about a 1941 study on a small Japanese community:

*"A small Japanese community (total 25 individuals) ingested high levels of manganese in contaminated well water (that leaked from dry cell batteries buried near the wells) over a three-month period (Kawamura et al., 1941). Manganese intake was not determined at the time of intoxication, but when assayed months later, it was estimated to be close to 29 mg/L (i.e., 58 mg/day or approximately 1 mg/kg-day assuming a body weight of 60 kg). Symptoms included lethargy, increased muscle tonus, tremor, mental disturbances, and even death. Autopsies revealed macroscopic and microscopic changes in the brain tissue. In contrast, six children (1- to 10-yr-old) were not intoxicated as were the adults by this exposure. The elderly were more severely affected. **Some effects may have resulted from factors other than manganese exposure.***

There is no information available on the carcinogenic effects of manganese in humans, and animal studies have reported mixed results. Based on the 1999 Draft Guidelines for Carcinogen Risk Assessment, there is "Inadequate Information to Assess Human Carcinogenic Potential" for manganese (U.S. EPA, 1999b). According to the 1986 Guidelines, EPA considered manganese to be not classifiable with respect to carcinogenicity, Group D (U.S. EPA, 1986b). Data from oral exposure suggest that manganese has a low developmental toxicity."

Along with manganese dioxide, the dry cell batteries would have also been leaching zinc, zinc chloride and ammonium chloride. The EPA report does not discuss the impact of these chemicals on the villagers in this report, but it does state that "**Some effects may have resulted from factors other than manganese exposure.**" Which begs the questions what were some of those effects and why were they simply glossed over in the proposed?

Additionally, the Department points to a 2011 study of children living in Bangladesh, a third world country. The study looked at arsenic and manganese and concluded that manganese was "*significantly more strongly related to externalizing behavior problems.*"

This leads to a very important question, has a similar study been done among children of the same in first world nation's like the U.S., Great Britain or Canada? What other factors could have impacted the behavior of children in Bangladesh, a third world nation, besides manganese exposure?

A close examination of the facts seems to indicate that in many cases more information is needed to fully understand the effects of manganese on humans. This is a point is noted by the BCW numerous times in its own Proposed Rulemaking.

In fact, throughout its Proposed Rulemaking, the Department seems unsure of the results of the studies that it is basing its recommendations on. You can read for yourself the language it expresses in a number of places using in phrases like:

- “more research is needed to understand...”
- “Researchers have begun to examine the effects of chronic low-level exposure on children.”
- “Preliminary data suggests.....more research is needed.”
- “It is unclear whether this data.....”
- “further research is needed”
- “hampered by the lack of data...”
- “The results of the study suggest an association....”

There seems to be considerable uncertainty as to the results and meaning of the studies being referenced by the Department. I would recommend that more certainty should be known before classifying something that until now has not been classified as a toxin by either the EPA or any other state.

Another Nail in the Coffin for Pennsylvania Business: Nationwide and here in Pennsylvania, many small businesses are struggling to just to stay alive. Adding a new regulatory burden to Pennsylvania businesses in the midst of a job eating pandemic is not a wise move.

Instead, it would be more sensible for the Commonwealth and the Department to look for ways to help businesses by eliminate overburdensome regulations.

It is unreasonable for the Commonwealth to take such an unprecedented action at this time. In her comments to the Department on February 26, 2018, Rachel Gleason, Executive Director of the Pennsylvania Coal Alliance noted that other coal states were far less restrictive in their regulation of manganese. In her comments to the Department, she stated:

“Pennsylvania’s application of the 1.0 mg/l PWS criterion for manganese at coal mining discharges is more restrictive than any other coal mining state, and, as previously detailed, more restrictive than federal regulations. Specifically:

In Ohio, designated uses are provided in in Chapter 3745-1-07 of the Ohio Administrative Code. Section (B)(3)(a) designates that “... *all surface waters within five hundred yards of an existing public water supply surface water shall be classified as ‘Public Water Supply.’*” Further, Ohio does not have a PWS standard, an aquatic life standard, or a human health standard for manganese. Rather, it regulates mine discharges consistence with 40 CFR §434.

In Kentucky, all streams, according to 401 Kentucky Administrative Regulations 5:026, are designated for warm water aquatic habitat and primary and secondary contact recreation. *"The designation for domestic water supply is applicable only at points of intake."* Further, Kentucky does not have a PWS standard, an aquatic life standard, or a human health standard for manganese. Rather, it regulates mine discharges consistency with 40 CFR §434.

In Illinois, per Title 35, §303.202 *"...waters of the State shall meet the public and food processing water supply standards . . . at any point at which water is withdrawn for treatment and distribution as a potable supply or for food processing."*

In Indiana, Title 327, Article 2, *"All waters that are used for public or industrial water supply must meet the standards for those uses at the points where the water is withdrawn."* Further, Indiana does not have a PWS standard or an aquatic life standard for manganese.

In West Virginia, *"The manganese human health criterion shall only apply within the five-mile zone immediately upstream above a known public or private water supply used for human consumption."*

Concluding Remarks

By being the first and only state in the nation to classify manganese as a toxin, the Department is creating a huge disincentive in both the anthracite and bituminous coal fields to re-mine and reclaim long abandoned coal mine lands.

According to best DEP statistics available, since 1998, more than 43,000 acres of coal lands have been reclaimed as a result of re-mining in the Commonwealth of Pennsylvania. Anthracite coal mine operators have re-mined and reclaimed more than 20,436 acres of surface abandoned mine land features and 193 acres of underground abandoned mine lands.

Additionally, bituminous coal mine operators have reclaimed 14,040 acres of abandoned surface mine lands and 8,739 acres of underground abandoned mine lands for a total of 22,779 acres. That is an average of over 2,500 acres annually. Based on current BAMR costs, the environmental benefits to the Commonwealth in the Anthracite Region over this period is an estimated \$900 million or about \$52 million annually since 1998.

As a result of this rulemaking, thousands of acres of long abandoned strip pits will remain open and dangerous to human, animal and aquatic life in the anthracite region and to waters our areas rivers and streams contribute to.

The evidence is beyond conclusive that re-mining is having a positive impact on the region and state's environment. Classifying manganese as a toxin and creating more stringent 0.3mg/L will do very little for the environment. In fact, it will needlessly propitiate dangerous abandoned highwalls and abandoned mine pollution by discouraging re-mining operators from permitting and re-mining those areas where the risk encountering treatment for manganese as a toxin at a much more stringent level.

Anthracite Industry Background

Anthracite, commonly known as hard coal, is the highest form of coal and a naturally high carbon source. With a typical carbon content range of 84% to 92% and a sulfur content of less than 0.7% anthracite uses range from residential and commercial heating to industrial carbon applications for the manufacturing of steel, graphite, water filtration media and other manufacturing needs.

While most bituminous coal seams lie relatively flat and horizontal. Anthracite coal seam typically pitch downward into the earth in steep slopes of 45 degrees or more, basin out at the bottom and pitch back up and saddle before plunging back into the earth at another steep pitch. An anthracite surface mine may go as deep as 500 to feet to access the mineral.

War time needs of the last century required that coal be mined as quickly and as cheaply as possible. As a result, U.S. law prior to 1977, discouraged the back filling and reclamation of surface coal mines. Many of those scarred pits still remain a hazard today discharging millions of gallons of pollution daily into the region's water system. This water eventually finds its way into the nation's major drainage systems, the Delaware and Susquehanna River Basins.

However, today nearly all mining being done in the Anthracite region is the re-mining of coal left behind in previously mined areas. Anthracite mining operators are actually cleaning up mine drainage and the environment by mining from the surface and "day-lighting" old abandoned deep mines and surface mines. When complete, they then reclaim the landscape by backfilling and re-seeding the area for other uses. In the Anthracite region, surface coal mining and environmental reclamation go hand-in-hand. One does not occur without the other.

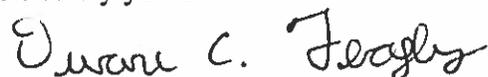
Further, re-mining provides the added benefit of decreasing surface water flow into underground mine pool complexes and groundwater systems. When land reclamation occurs as a result of re-mining, there is a reduction of surface water runoff. Infiltration is eliminated or significantly decreased preventing pathways and flow paths into the highly fractured bedrock and underground workings that tend to elevate mine pools which cause them to fluctuate. Left unimpeded, surface water runoff will eventually find its way into long abandoned mine works creating AMD discharges with varying flows.

The re-mining of abandoned mine land in the Anthracite and bituminous regions reclaims more land and provides more water improvement than BAMR at minimal costs associated with administering the program. In addition to the environmental benefits of re-mining. It is also important to note the significant economic benefits associated with re-mining in the Anthracite region.

Today, nearly 1,000 persons are directly employed by companies engaged in re-mining activities in the Anthracite region. The industry contributes a direct payroll of nearly \$100 million to the state's economy. The average re-mining employee earns a salary and benefits package of between \$60,000 and \$75,000 annually. In addition, re-mining contributes to the creation of hundreds more ancillary jobs adding even more income to the region and state, local and federal taxing bodies.

Thank you for taking the time to read over and consider my comments. We look forward to working the Department on this timely and important topic. Please feel free to contact me with any questions or comments you have.

Sincerely yours



Duane C. Feagley
Executive Director