

Proposed Rulemaking: Water Quality Standards for Manganese and Implementation

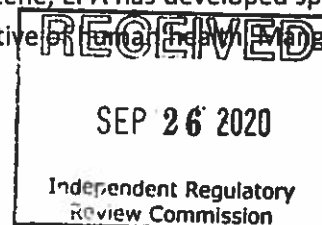
My name is Jacquie Fidler, and I am the Director of Environmental and Regulatory Affairs at CONSOL Energy, a leading producer and exporter of high quality, bituminous coal from the Northern Appalachian Basin. The Company's Pennsylvania Mining Complex, located in Greene and Washington counties, is the largest underground coal mining complex in North America. Together with our subsidiaries, CONSOL holds approximately 30 permits in Pennsylvania, under which we treat and discharge approximately 9.5 billion gallons of water annually. In 2019, our environmental compliance record exceeded 99.9% for the sixth consecutive year.

On behalf of CONSOL, we would like to thank you for the opportunity to address the proposed rulemaking related to the Manganese water quality standard. The proposed rulemaking seeks to reclassify Manganese as a toxic substance under Chapter 93.8(c), and also proposes two alternatives for the point of measuring compliance: the point of potable water supply withdrawals, or in all surface waters.

The proposed rulemaking was initiated in response to Act 40 of 2017, which required the Environmental Quality Board (EQB) to revise the water quality standards at Chapter 96.3(d) in a manner that would provide clarity on the point of compliance for the existing manganese water quality standard, which was established for the protection of potable water supplies. Act 40 intended to provide consistency with other water quality criteria similarly established for the protection of potable water supplies such as total dissolved solids, chloride, sulfate, and fluoride. Act 40 did not instruct the Department to re-classify Manganese as a toxic substance. Our brief comments today are consistent with Act 40, and are supportive of maintaining the point of compliance at the location of potable water supply withdrawals.

Manganese is abundant in the environment and is naturally occurring in soils, sediments and waters. Manganese is classified as an essential nutrient critical for biological processes such as metabolism, bone development, and reproductive health. Like other naturally occurring and vital nutrients, Manganese toxicity is associated with chronic exposure and high dosages. As such, Manganese has not been widely categorized as a toxic substance for which broad surface water protection is warranted – by the federal EPA or by surrounding states. For instance, in West Virginia, the Manganese human health criterion is applied within a five mile zone immediately upstream of a private water supply. While Ohio does not have specific aquatic life or human health criteria for Manganese, the state classifies all waters within 500 yards of an existing public water intake as a public water supply. In Virginia, the Manganese human health criterion for public water supply use was removed, in part, because the state's narrative criteria ensure full protection of the designated uses, including public water supply. In Pennsylvania, the current 1.0 mg/L Manganese surface water quality standard is applicable in stream and intended to be protective of potable water supply uses. This would not change if Act 40 were enacted as proposed.

Furthermore, EPA has only established a secondary maximum contaminant level (SMCL) of 0.05 mg/L for domestic drinking water based on aesthetic and taste considerations, and not based on human health. In contrast, for toxic substances such as Arsenic or Benzene, EPA has developed specific, primary drinking water standards at low concentrations that are protective of human health. Manganese has not



yet been classified as a toxic substance for which a primary drinking water standard is required. Accordingly, Pennsylvania's currently enforceable drinking water SMCL for Manganese is 0.05 mg/L. This will not change as a result of the proposed rulemaking.

In deriving the proposed 0.3 mg/L water quality criterion, the Department relies upon an oral reference dose developed by EPA in 1995 based on dietary studies alone, applies a conservative modification factor of 3 in accordance with EPA guidelines developed in 2000, and assumes a daily drinking water intake of 2.4 Liters. The purpose of the modification factor is to translate the 1995 dietary reference dose into a drinking water consumption dose. If the modification factor were removed, the ambient water quality criterion would have been calculated at 0.9 mg/L, which more closely aligns with the existing 1.0 mg/L standard. Regardless of the factors used to derive the proposed standard, the standard is based upon direct daily consumption at a concentration of 0.3 mg/L – which is likely not representative as the Commonwealth's 0.05 mg/L Manganese SMCL required for drinking water will remain unchanged.

Under Chapter 93, the Department defines existing or designated stream uses for surface waters within the Commonwealth, and ensures that water quality standards are appropriately applied to promote the maintenance and protection of the designated uses. For instance, surface waters that are designated as potable water supplies are protected for use as a potable water source. Similarly, the water quality in surface waters designated as trout stocked fisheries are protected to support a trout population. Given that the proposed Manganese standard was developed based on intake, consumption, and human health only, it is inappropriate and overprotective to apply the proposed standard as an ambient standard that must be achieved in all surface waters, or at the point of all discharges. Rather, the standard should be applied where it will ensure the protection of intake and consumption – in those surface waters classified as potable water sources.

As part of the NPDES permitting process, the Department evaluates the proposed discharge and assigns effluent limits that are intended to not only protect the designated use of the receiving streams, but also to protect the nearest downstream potable water supply intake. The Department consistently employs its Penn-tox program, which is a quantitative assessment of the reasonable potential for a discharge to cause an excursion above the applicable water quality standards. This process applies to all dischargers and NPDES permit holders across the state – regardless of industry classification. The analysis is completed under conservative theoretical conditions that assume an elevated concentration of manganese is discharged at a maximum flow rate under drought conditions in the receiving stream, to ensure adequate protection of designated uses and downstream water supplies at all times. This analysis includes a comparison of industry specific effluent limit guidelines, to other guidelines and standards such as water quality standard based effluent limits and total maximum discharge loads developed at the watershed level – an approach that is consistent with the Department's water quality management and pollution control duties at the watershed level under the Clean Streams Law. In this analysis, the most protective category of effluent limit is applied – and to reiterate, even in circumstances where industry specific federal effluent limit guidelines have been developed for specific industrial source categories. This analysis is routinely repeated during the permit renewal process to ensure continued protection and anti-degradation of the Commonwealth's water resources and associated designated uses.

In implementing Act 40 of 2017 as intended, and in defining the location of potable water withdrawal as the point of Manganese compliance, these processes would not change. In the examples above, where discharges exhibit reasonable potential to cause, contribute to, or influence water quality at the point of withdrawal, then restrictive limits are imposed. Currently, the 1.0 mg/L Manganese standard is required to be achieved in stream, including at the point of potable water intake – this would also not change if Act 40 were enacted as intended. Consequently, the public water companies should not incur additional treatment costs, as the permitting process and reasonable potential analyses ensure protection at the point of withdrawal.

In closing, assigning a new, reclassified and toxic standard for Manganese that was derived based on human health and consumption to all surface waters is not necessary or appropriate, and is inconsistent with Act 40. DEP should revise the proposed rulemaking to simply add Manganese as a listed parameter under 25 Pa. Code Chapter 96.3(d). This revision would align Pennsylvania's standard with that of the surrounding states, while conforming to Act 40, as signed by the Governor in 2017.

Thank you for your time and consideration, and please let me know if I can answer any questions.