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September 11, 2022

Independent Regulatory Review Commission
333 Market Street, 14th Floor
Harrisburg, PA 17101

Re: IRRC Number 3260
Regulation #7-553 Water Quality Standard for Manganese and Implementation

Dear IRRC Members:

Rosebud Mining Company (Rosebud) urges the IRRC to disapprove #7-553 Final Regulation Water Quality Standard for Manganese and Implementation based on the list of comments below.

The final regulation:

1. Does not comply with Act 40, which directed and required a one word change to Chapter 93.6d
2. Will provide virtually no meaningful manganese reduction
3. Does not address the feasibility of treating for manganese at the Alternative Bonding System (ABS) and Passive AMD treatment systems already in existence
4. Incorrectly states that there will be no increases in cost to state government
5. Incorrectly states that Pennsylvania will not be at a competitive disadvantage
6. Does not take a balanced scientific approach in analyzing the health effects of manganese
7. Does not correctly analyze exposure pathways for human manganese intake

Act 40

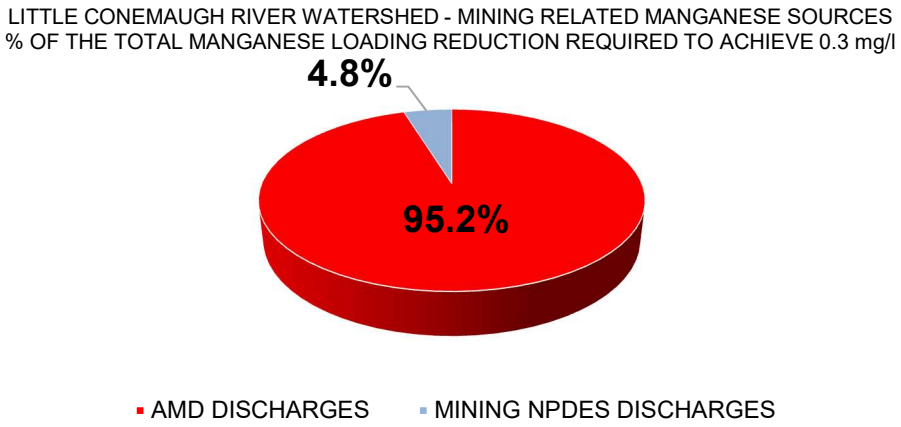
Act 40 required the Department of Environmental Protection (DEP) to make a simple revision to the regulations to provide clarity to the point of compliance concerning manganese concentration. DEP was directed to add "ONE" word to Chapter 96.3(d) to comply with Act 40. The insertion of manganese into the list of other water quality criteria like fluoride would have fulfilled Act 40. The final regulation could have simply read:

*(d) As an exception to subsection (c), the water quality criteria for total dissolved solids, nitrite nitrate nitrogen, phenolics, chloride, sulfate, **manganese** and fluoride established for the protection of potable water supply 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.*

Instead of a one word fix for clarity, the final regulation utilized outdated and misinterpreted studies to label manganese as toxic, add an overly conservative 3 time safety factor, and creating a 0.3 mg/l health and human criteria standard. In essences, DEP is trying to treat manganese, which is an essential nutrient, the same as known toxic metals like cyanide, arsenic and mercury; instead of treating manganese like fluoride in Chapter 93.6(d).

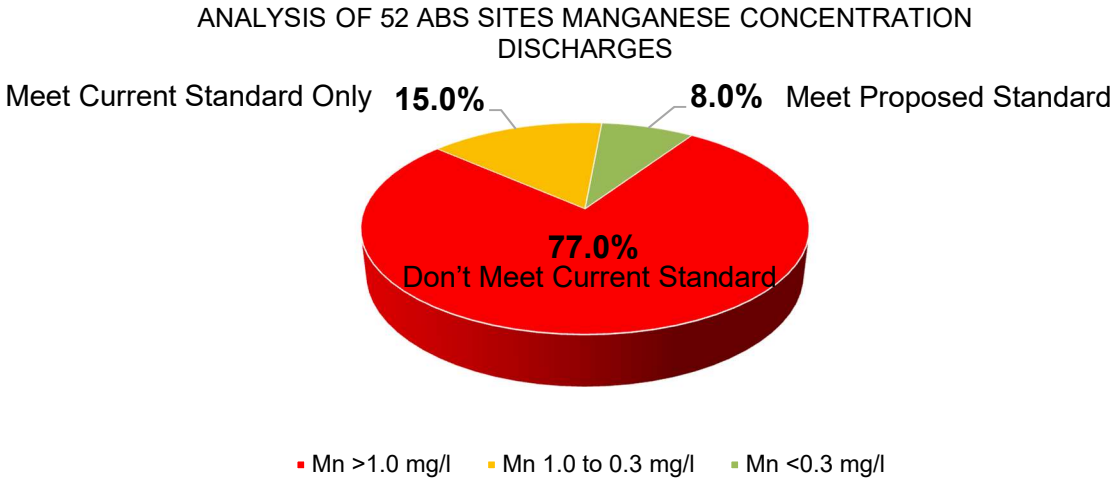
Virtually No Manganese Reduction

DEP did not conduct any research into the main sources of manganese in Pennsylvania watersheds. The Little Conemaugh River is located in within the coal bearing areas of Western Pennsylvania and has been impacted by acidic abandoned mine discharges (AMD), providing an excellent example of manganese loading. Using information from reports and eFacts, sources of manganese loading related to active coal mining and AMD was evaluated. The results show that 95.2% of the load reductions required to meet the 0.3 mg/l proposed standard will have to come from AMD sources that have no responsible operator. 4.8% of the manganese load reduction will be from the regulated coal mining NPDES discharges. Therefore, the final regulation will have no ability to regulate the AMD sources, thus providing virtually no manganese reduction within the watershed.



ABS/Passive Treatment Systems & Increased Costs to the State of Pennsylvania

Alternative Bonding System (ABS) legacy sites are sites that started after 1977 and the mining bonds have been forfeited. The DEP is legally responsible for long term treatment of discharges from these sites. Data provided by DEP for 52 of those sites, which contained both flow and manganese data, show that 92% of the sites would not meet the 0.3 mg/l standard. In fact, 77% of the sites did not meet the current 1.0 mg/l standard.



In addition, AMD treatment systems operated by other non-profits such as watershed groups often do not treat for manganese because iron, aluminum and acidity are the main pollutants of concern. Information on 269 active and passive AMD discharge treatment sites showed manganese on average was only reduced by 31% from the raw water concentration levels and several had no reduction at all to manganese concentration.

Given that the majority of both ABS and Non-profit treatment sites are not effective at treating for manganese, an increase in treatment costs will surely occur if these sites are to meet the 0.3 mg/l standard in the final regulation for manganese standards. DEP did not provide any cost figures for what

funding levels would be required to bring the ABS sites into compliance with the new manganese standard; only that DEP has limited funds for water treatment and their overall goal is to reduce pollution. However, if manganese was as toxic as portrayed in DEP's analysis, protecting human health would seem to warrant more effort than just trying to reduce pollution.

Competitive Disadvantage for Pennsylvania

Although stated otherwise by DEP, Pennsylvania will see a competitive disadvantage to industry, particularly in the mining and earthmoving sector. West Virginia, Ohio, Kentucky and Indiana all regulate manganese at the point of compliance for public water supply intakes or only apply the federal standard to coal mining operations per 40 CFR §434.

State	Point of Compliance	Manganese Standard
West Virginia	5 miles of PWS Intake	1.0 mg/l at point of compliance
Ohio	500 Yards of PWS Intake	Federal standard for coal mining operations
Kentucky	PWS Intake	Federal standard for coal mining operations
Indiana	PWS Intake	Federal standard for coal mining operations

These states will have a competitive advantage particularly concerning the coal mining sector as operators will only have to meet the federal standard, which will save money and make these states more attractive to mining operators.

Balanced Scientific Approach/Exposure Pathways

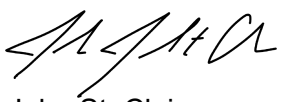
Manganese is an essential nutrient for humans and animals. Many foods are recognized for their source of manganese which is needed for normal human function. DEP did not take a balanced approach in weighing the potential manganese toxicity in infants and children. DEP gave more weight to limited epidemiology studies rather than more recent PBPK models. PBPK models are more reliable models for manganese uptake in infants and children and should actually be given more weight than epidemiology studies. DEP disregarded PBPK studies provided by industry in their evaluation.

In addition, DEP's 0.3 mg/l human health criteria does not correctly reflect realistic exposure routes for manganese intake. The 0.3 mg/l standard is based on an uncertainty margin of 3 which would mean that 1.0 mg/l is the actual "toxicity" level for manganese and is being applied on all reaches of streams within Pennsylvania. Even though the definition of a potable water supply, which would be exposure pathway for humans to intake manganese, in Chapter 93 states "after conventional treatment" of water. Exposure to manganese is not occurring by individuals collecting water directly from the stream without treatment and then consuming 3 liters daily or using that water to make formula to give to infants which are the most susceptible to manganese and thus the 3 times margin of safety.

Conclusion

Rosebud appreciates the opportunity to provide comments to Final Regulation #7-553 Water Quality Standard for Manganese and Implementation and request that the IRRC disapprove the regulation based on the comments provided.

Sincerely,



John St. Clair
Rosebud Mining Company