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

RE: No.3260 - Water Quality Standard for Manganese and Implementation (EQB #7-553)

Dear IRRC Commissioners:

As a mining consulting firm since 1978, Earthtech, Inc. would like to present this letter in regard to the above referenced proposed Manganese Water Quality Standard. We at Earthtech request that you disapprove this regulation, which would amend Chapters 93 and 96 of 25 Pa. Code.

This proposed regulatory standard for mine water discharges to have the manganese limit lowered to 0.3 mg/L is both unnecessary and erroneous.

First, a brief background about Earthtech. Our firm, employing approximately 35, has concentrated on mine engineering and consulting since its inception. We have investigated thousands of potential mine sites, and have provided evaluation and regulatory permitting for hundreds of coal, stone, and reclamation sites. Integral to this work is stream, water supply, groundwater sampling, and hydrologic impact studies and investigations. We have collected tens of thousands of water samples and used this data to monitor and predict outfall water quality. Our staff of professional engineers, professional geologists and support staff is quite familiar with the characteristics of waters in and associated with mines. Manganese is one of the metals contained in these waters with which we deal daily.

From this prospective, we offer the following:

1. **Receiving Streams.** It is not uncommon for receiving stream water to have a natural manganese level that is higher than 0.3 mg/L. This background amount can be sourced from groundwater that contains naturally-occurring manganese or be sourced from unregulated impacts in a watershed. In these instances, this proposed regulation will provide no reduction to the existing manganese levels that are already in streams.

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2. **Treatment Pond Designs.** In order to settle manganese out of water, the pH is typically raised above a 9.0. Since manganese limits have slowly been ratcheted down over the years and are at present quite low, further reducing the limit to 0.3 mg/L will make treatment systems more costly to design and install. The added footprint of the required treatment area will result in more earth disturbance, more stream/wetland impacts, more lost forestland and a loss of Pennsylvania's valuable land resources. Many coal mining sites will likely be forced into a permanent treatment system, all with the goal to reduce the limit from an already regulated low level.

3. **Mining Industry Impact.** Most mine sites are situated well away from water supply locations, commonly with infrequent outfalls, making their contribution a small component of a public water intake. Other NPDES permit holders in the state have been issued permits that do not include metal limits such as manganese. They would continue discharging unaffected by this burdensome regulation and cause prejudice to mining and heavy industrial sites. Pennsylvania is home to a large amount of small coal companies, many of which are family run businesses. This regulation will likely be the end for these small companies. Costly treatment systems would need to be engineered and fit onto sites that were never designed with this in mind. The proposed limits for discharges make treatment and non-compliant sample penalties impossible to manage for frequent rainfall events. For example, sediment ponds are typically one bay with basic flocclent addition to assist with sediment settling. With this manganese criteria in mind, several ponds will be needed on sites to allow fluctuation of pH and efficient removal of pH. In summary, there are currently enough design standards in place to protect our watersheds without this proposed manganese criterion.

4. **Abandoned Mine Reclamation Threatened.** Another ramification to consider should be the loss of continuing the reclamation of Pennsylvania's abandoned coal mining scars. Our state was critical to winning World War II and supporting the industrial revolution which led the United States to be a world leader. As a result, many unregulated and unmanaged scars remain which cause pollution to our land and waterways. The goal for Pennsylvania and regulations should be to promote reclamation of these abandoned mine lands. This proposed regulation will make it impossible for private sector companies to assist in any reclamation requiring a discharge permit. The risk of accepting a permit with such a low limit would be too great. The result would be that the Commonwealth will be faced with an even greater amount of bond forfeiture and legacy sites, with the added costs for treatment, that otherwise would have been reclaimed. Overall, the goal of reduced manganese levels in streams is being approached incorrectly and may have the opposite effect.

5. **Cost.** The cost to the mining industry for such a fractional decrease in the allowable manganese discharge limit simply does not constitute proper judgment. A 0.3 mg/L manganese limit will certainly put Pennsylvania's mining industry at a disadvantage to other competing states, further adding to commodity price increases that are ultimately borne by the consumer. A permit holder with these strict limits imposed to their existing permit may end up spending upwards of $20,000/year in penalty assessments due to non-compliant sampling results by DEP and self-reporting discharge sampling. Even greater upfront costs will be incurred to attempt viable treatment to meet discharge limits.

6. **Water Quality Monitoring.** The equipment needed to accurately field test for immediate manganese results at such low levels is questionable at best. To obtain reliable, 2-decimal data at the proposed low manganese level while adjusting field treatment systems would be a challenge, if at all doable. It is typically days to a week to get certified lab results, making monitoring and treatment a constant catch-up. Overtreatment to near zero is the likely solution to assure compliance, making even more costly water treatment to below 0.3 mg/L expected.

Manganese discharges from Pennsylvania's coal mining industry are regulated at the technology-based effluent limit of 2.0 mg/L, although many permits contain the lower 1.0 mg/L limit because they are situated in a watershed having a Total Maximum Daily Load (TMDL). A perceived improvement in stream quality by meeting this stringent 0.3 mg/L requirement, which is difficult to achieve, would generally be negated by other downstream impacts that are either unregulated or the responsibility of a regulatory or a watershed group who do not treat to such a low standard. Federally, manganese is not considered toxic at any level. While there is a secondary maximum contaminant limit of 0.05 mg/L, this is only for drinking water delivered to a customer and was set to address odor and taste.

Moreover, this proposed regulation is patently flawed because the Department does not have experience in treating manganese down to a 0.3 mg/L, nor has the Department considered that many mining discharges are located where space is not available to construct acres of treatment systems to try to comply with such an impractical limit.

Based on our experience and the points as outlined above, we at Earthtech, Inc. strongly encourage the members of the IRRC to disapprove this proposed regulation.

Should you have any questions regarding this submittal, please feel free to contact our office.

Respectfully submitted,

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