

Chairman Koehler, Vice Chair Creech, Ranking Member Brent, and Members of the House Agriculture and Conservation Committee:

First, let me say thank you for the opportunity to give testimony before this committee in opposition of HB 175.

HB 175 interplays with HB 282 (Regards sale of brine from oil/gas operations as a commodity).

Background

HB 282 offers a list of toxic elements with standardized levels that must be met in order for the brine to be sold as a commodity. This refined brine, however, continues to include highly radioactive contaminants. They are "(m) Radium-226 20,000 picocuries/l; and (n) Radium-228 2,500 picocuries/l." Radium 226 is of special concern as it is an alpha and gamma emitter, with a half-life of 1,600 years! Let me say that again 1,600 years! Furthermore, **all** its 33 decay products, which includes radon 222, are highly radioactive.

Ohio as of 2019 has 262,492 miles of roads and the brine can be spread at the rate of 3000 gallons per lane mile. The total would be over 600,000,000 gallons in one application if most roads were covered. The Ohio Department of Transportation, by itself used 14.1 million gallons of brine in 2018 (this figure does not include all the other entities in the state that use brine).

Testing by the state of Ohio shows of 151 samples taken from 150 different sources of Ohio brine, 148 samples exceeded environmental discharge limits and all 151 exceeded federal safe drinking water standards. (Quote from Columbus Dispatch, 2/16/2021) This includes radium.

Ohio law allows no more than **0.005** (for emphasis) picocuries of radium per liter (pC/l) of oil and gas fracking waste to be placed in landfills in the state. So why would 20,000 pC/l be satisfactory for use on Ohio roads?

HB 175

The very purpose of the brine is to melt snow, which then becomes an ephemeral feature by HB 175's definition. So when snow melts as a result of brine being placed on roads, the resulting contaminated, toxic, radioactive water flows into other streams and rivers. The Ohio EPA conservatively estimates that we have over 36,000 miles of these ephemeral streams in Ohio.

Surface water is a source of drinking water for the majority of Ohio communities so this bill would directly harm drinking water by allowing toxic and radioactive brine in these ephemeral, rain/snow dependent, streams that will inevitably end up downstream in perennial streams. Radioactivity does not just stay in the water. It goes into the air and soil. It radiates by definition. This bill will not only weaken protections for drinking water but allow other types of radioactive contamination as well.

The interplay of HB 175 and HB 282 together perpetuate further degradation of the environment AND eliminates oversight of pollution and polluters.

As nurse and professor emeritus of nursing at Xavier University, I am greatly concerned about what harm radiation can do to the health and lives of humans as well as others with whom we share the earth. It causes irreversible damage and even death to the living and continues to do its harm for centuries after.

I have 2 asks as you consider my testimony: first, vote NO on HB 175 as oversight of Ohio waters are essential to all who use and are dependent upon them; and 2) reach out to your colleagues on the Energy and Natural Resources Committee to discuss the impact upon all residents of Ohio of radioactive substances being released into air, water and soil via brine applications.

Thank you again for the opportunity to testify.

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