

Chairman Stephens, Vice Chair Stewart, Ranking Member Weinstein, and Members of the House Energy and Natural Resources Committee:

First, let me say thank you for the opportunity to give testimony before this committee in opposition of HB 282 as it is written.

In previous testimony by Representative Bob Young, District 86. He stated, "Put simply, HB 282 is trying to create a framework for the sale of brine water, an otherwise useless by-product of "vertical" oil and gas wells, to be used to help the de-icing of our roads." I have no problem with developing a framework and establishing standards. In fact the purpose of the bill is important for protecting the public, but there are dangerous standards in the bill.

There are two issues, however, I present to the committee for consideration.

1. HB 282 does offer 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. I would argue 1,600 years of one application is too much.

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?

Even refined brine with the standards as written in HB 282 is a problem. Repeated applications, during a heavy winter/dusty summer, and over decades, provide an excessive threat to all forms of life in Ohio via contaminated air, soil and water.

My ask is to amend the bill to use the landfill standard for radium 0.005 pC/l or vote no HB 282 as written.

2. HB 175 called “Deregulate certain ephemeral features” interplays with HB 282. HB 175 includes the following:

a. Excludes ephemeral features from water pollution control programs, including the section 401 water quality certification program.

**b. Specifies that an ephemeral feature is a surface water flowing or pooling only in direct response to precipitation, such as rain or snow.**

c. Eliminates the section 401 water quality certification review fee that applies to ephemeral streams (currently \$5 per linear foot of stream to be impacted, or \$200, whichever is greater).

Note b. that surface water as a direct response to precipitation, such as snow is an ephemeral feature. When snow melts as a result of brine being placed on roads, the resulting contaminated, toxic water flows into other streams and rivers. HB 175 proposes the removal of water pollution control programs which would further impact the citizens and other natural residents (animals, birds etc.) of Ohio. These 2 bills together further degrade the environment and eliminates oversight of pollution and polluters.

My ask is for you to reach out to your colleague on the Agriculture and Conservation Committee to discuss the impact of these two bills upon each other and the residents of Ohio.

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 ask you to consider my testimony and vote no on the dangerous bill as written. Thank you again for the opportunity to testify.

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