

TESTIMONY

BEFORE THE
OHIO SENATE ENERGY AND PUBLIC UTILITIES COMMITTEE
HOUSE BILL 104

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PROPONENT TESTIMONY OF JON P. MORROW M.ECON.
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Thank you, Chairman Wilson, Vice-Chair McColley, Ranking Minority Member Williams, and members of the Committee for the opportunity to provide testimony on HB104.

My name is Jon Morrow, and I am an economist. I have been an economist for large military contractors and for large energy companies, largely in the sphere of coal, oil, and gas.

My colleagues in the economics world would find it strange that I am testifying on behalf of a nuclear research and development bill. Prior to 2006, I had almost no experience with reactors, their wastes, and their by-products. I testify today not due to a want to save the earth or the climate or some other selfless notion of nobility. I do so for personal reasons. Please allow me to elaborate.

Nuclear research is more than about energy. Radioisotopes produced by new reactors can be utilized in industry, in space exploration, in agriculture, and in medicine. Anyone that has had a family member or loved one that has been afflicted with a serious cancer – knows that the cure can be as painful as the disease. Many times, radiation is used for aggressive forms of cancer. Currently, that means a beta-emitting isotope. These beta-emitting isotopes can kill the cancer but kill a lot of good tissue. It is like letting a bull loose in a china shop – except this is your body. The result is getting very sick and wanting to die. Many patients that go through this type of heavy radiation (chemotherapy) are never the same. I can testify to this after surviving brain cancer and pancreatic cancer. My fiancé, that was not as lucky, died from the same type of brain cancer that I survived from.

From this horrible life-experience, I learned of alpha-isotopes. Alpha-isotopes, unlike beta-isotopes, do not destroy nearly as much good tissue in the body. The technology that surrounds this type of isotope allows it to act like a smart bomb, delivering the isotope just to the cancer cell. This leaves the healthy cells alone and as a consequence, those undergoing this treatment do not get deathly-ill.

We don't hear much about targeted alpha therapy (TAT) because the isotopes are rare for a variety of reasons. New research and development size reactors (desktop sized reactors) can give hope to produce the alpha-isotopes needed to treat the rarest forms of cancer in large quantities. Reactors can produce these isotopes much more cheaply than other technologies while producing no long-lived nuclear waste. They can operate very cheaply and with a technology that makes accidents almost all but impossible.

The benefits of such technology to all cancer victims would be amazing if TAT can become commonplace. People will get less sick during cancer treatments and have faster recovery times and have fewer long-lasting side-effects from treatment. As well, the potential exists to treat those with rarer and more aggressive cancers that are not now treatable.

CAN WE ALL AGREE THAT SAVING LIVES IS A GOOD THING?

Here is a link to a micro-documentary (10 minutes) on actinium-225. The alpha isotope my fiancé died waiting for because it is so rare. The documentary is about a very expensive way to produce these isotopes with a particle accelerator. HB104 could allow this isotope to be produced much more cheaply with a reactor.

<https://youtu.be/8DkhSFS0FY4>

OTHER REASONS TO VOTE FOR HB104

The research reactors needed to produce what are now rare medical isotopes have a number of potential benefits for Ohioans. Specifically, I will focus on Molten Salt Reactors (MSRs).

1. We know from research and development of these reactors in the late 1960's and early 1970's that these reactors can be made to be much more cheaply while still being extremely safe.
2. This technology can consume current stockpiles of high-level nuclear waste – eliminating the need to sequester it for thousands of years.
3. This technology is thought to be able to produce energy more cleanly and cheaply than natural gas – without affecting the environment.
4. This technology is small and compact making it ideal for military applications and deep space exploration.
5. If you believe in Man-made global warming, this technology, when commercialized would be many times more effective at reducing green-house gases in the atmosphere compared to renewable energies.

Passing HB104 helps to do two things:

1. It signals and pressures the Federal government to let them know Ohio wants to be a leader in Energy, Medicine, Military Applications, and Space Exploration. To put the federal government on notice that they are holding up the next generation of nuclear.
2. It lays a regulatory environment at the State level that is not overly burdensome and still allows for oversight by State officials.

An Ohio legislator can take a few tact's here. They can take the position of waiting and hoping the Federal government and bureaucrats will someday move and do the right thing -or- you can push them to do the right thing.

HB104 costs no taxpayer-dollars until the Federal government grants Ohio authority to develop new nuclear technologies – and then – the cost to the taxpayer is minimal.

If HB104 is successfully implemented and an agreement signed with the Federal government, Ohio stands to gain more than a few cutting edge new multi-billion dollar industries.

I have argued with legislators that have intimated that Ohio should do nothing until the federal government passes legislation and signs an agreement with Ohio. I would ask the committee to be proactive rather than reactive and that this type of legislation shows that you can see a much more prosperous future for Ohio – it solidifies that the committee has a vision. Ohio legislators used to have vision and Ohio led in industry and development. We created the technology to send probes into outerspace, helped make reactor fuel for our first submarines, created the technology to do highly accurate medical scans of the body, we even sent the first American to orbit the earth and to set foot on the moon.

If we can name sections of roadways to memorialize Ohioans – we can take time to push the Federal government to let us change the world.

We can have a vision again.

I implore you to pass HB104.

Thank you!