

THE OHIO SENATE

HOUSE BILL 104

Advanced Nuclear Technology Helping Energize Mankind (ANTHEM)

TESTIMONY TYPE: Proponent

TESTIMONY DATE: November 23rd, 2020

ADVOCATE NAME: Vasil Hlinka

TESTIMONY:

Dear Chairman Wilson, Vice Chair McColley, ranking member Williams, and the rest of the committee,

I thank you for the opportunity to provide testimony on HB104.

I am the CEO of a small early-stage technology startup company, AwareAbility Technologies, based in Columbus Ohio. We are working to commercialize some of the great research coming out of The Ohio State University (OSU). In particular, we have been developing a novel, semi-conductor battery cell that makes use of a radioisotope to deliver electric power for very long timeframes. Additionally, we have demonstrated a new radiation resistant semi-conductor detector for use in monitoring nuclear reactor cores (Smart Neutron Flux Detector Array). The purpose of this new "smart detector array" would be to improve nuclear reactor operation efficiency, ultimately cutting operations and maintenance (O&M) costs.

My background is not in the nuclear industry. Prior to starting the company, I had a fairly negative opinion of the nuclear industry. This changed very quickly when the company first began exploring the available research that's been done in the nuclear field. It was eye opening just how much research had been completed, and simply left "sitting on the shelf", at least in terms of the US power plant fleet.

Through the efforts with the company, I found that there is enormous untapped "technical potential" in the nuclear field. This technical potential promises to solve all of the historical ills that, I as a private citizen, had been led to believe were absolutes with nuclear power. By tapping this technical potential, we can develop NEW nuclear power "systems" that:

- Cannot melt down and cannot explode

- Implement a 100% closed loop fuel cycle - no need for off-site storage of any spent fuels – via recycling + "creative" use(s) of spent materials
- Are cheap to build and operate - enabled by the very latest 3D printed, very small and fully (semi) autonomous reactor arrays/grids
- Use novel fuel sources and fuel "materials" that are completely safe to handle (prior to deployment in the reactor) and easy to manufacture
- Use fuel that cannot be used for nuclear weapons

Even to a relative newcomer to the industry such as me, it became very apparent that nuclear power was the real answer to clean, reliable AND affordable power. What I also quickly learned was that China, Russia and France (to name just a few) are spending much more time, effort and money in trying to tap that potential – than the US.

In our efforts to find commercial demand for some of our technologies, we have been frustrated to discover that the only sales activity involving these technologies centered in the Far East or Europe.

Finally, in pursuit of technology research and development funding, our company has been engaged with NASA. As part of this engagement, we have come to learn that NASA's apparent long standing aversion to nuclear power has passed. They have recognized the value that nuclear power offers their varied space programs both in terms of vehicle propulsion and general power for future bases in space.

The above is my attempt to provide the context for the point of my testimony: that being a Call to Action. From my vantage point, the nuclear field is poised for a major resurgence. This resurgence will offer many economic benefits to the companies and associated communities that chose to invest in the technology development associated with the resurgence. HB104 represents an opportunity for Ohio to become one of those communities.

From my experience in the computer and computer software fields, I have come to appreciate the value of innovation and **Agility** toward successful development of successful products. Empowering discrete technical groups working on a large software system invariably results in a product that better meets the needs of the consumer, takes less time and investment to develop and ultimately is far more successful than a product developed using a heavily centralized command and control structure.

HB104 seeks to reintroduce some of that Agility into the nuclear power industry. I mentioned previously that technically, the nuclear community has in its sights, the answer to all of the historical ills faced by the industry. What stands in the way is not technical, but rather regulatory and organizational. HB104 rightly focuses on these issues.

Allowing the nuclear industry to learn from success in other industries, related to lean and agile processes and organizations, is critical to the ultimate success of the industries resurgence in

the US. An "Optimized Regulatory" environment is a must to open the floodgates of pent-up technological innovation and the associated commercial development. Passage of legislation, such as HB104, will allow Ohio to take an important step toward that "Optimized Regulatory" environment goal.

So, in conclusion, as a citizen of the US and Ohio, I ask you to pass HB104 to help enable the development of the next generation of clean, reliable and abundant electric power. As a small business owner, I ask you to pass HB104 to remove critical barriers to our company's growth - allowing us to provide new and high tech jobs for Ohio.

Thank you so much for this opportunity to offer proponent testimony,



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