

SB 177

Testimony Packet

House Resources Committee

Dear Alaska House Resources Committee,

I am writing in opposition to Senate Bill 177: "An Act relating to microreactors." This bill, introduced by Governor Dunleavy, encourages nuclear energy development in Alaska by eliminating the current statutory requirement requiring the involvement of the Alaska Legislature in designating land for nuclear energy. This is short-sighted, dangerous, and a false solution to our climate and energy struggles.

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Finally, we cannot overlook the sheer cost of nuclear energy. There are cheaper, safer, and renewable energy options available to us right now. Let's do the right thing by making the easy choice of not subjecting our state and our world to more dirty energy. I am urging you to not pass SB 177, which would only pave the way for disaster through the development of nuclear energy. We must work together as a community to reject false solutions to climate change and focus instead on safe, clean, renewable, and affordable options in powering Alaska.

Sincerely,

Ms. Eden Romeo

425 W 16th Ave Anchorage, AK 99501-5013 eden@nativepeoplesaction.org

Ivan Voronin

2710 Arboles Lane

Fairbanks, AK 99709

(907) 978-4073

To the Members of the House Resources Committee:

I am Ivan M Voronin, residing in Representative Grier Hopkins' district in Goldstream Valley of Fairbanks, Alaska.

I want to express my strong support for SB177, and future state efforts to provide for the development of nuclear energy resources for the residents of our state. The new technologies in small modular reactors can help us safely secure the important electrical and heating resources we need to support life and industry in this Arctic environment.

The selection of an SMR for use on Eielson Air Force base is a great start and proof of concept. I hope to see this applied to our local power utilities, too. Alaskans already pay the highest energy costs for heating and electricity, and are being exploited even further by the petroleum fuels industry with the recent events and inflationary pressure leading to extreme energy pricing and unprecedented energy insecurity (1).

Alaska needs to sustainably develop new industry and resource production, and move away from depending so heavily on petroleum for our energy and economic needs. As demonstrated in Iceland, having abundant energy resources can lead to new levels of economic prosperity, food security, and industry. Also, by continuing to burn hydrocarbons for our primary energy sources, we are causing indisputable global changes in acute weather frequency and local air pollution that are proven to lead to premature death and disability (2) (3).

From my experience as a petroleum tanker truck driver, our current electrical production plants dependent on coal are notoriously unreliable in the interior. For over a year, I had a night-shift job where I had two hours to arrive Golden Valley North Pole Gas Turbine plant with a tanker load of #2 heating oil on short notice every time the Healy "clean" coal #2 plant or the railbelt Intertie broke down, for up to a month at a time. Prior to the decision to build a diesel pipeline from the Petro-Star north pole refinery, my fellow drivers and I were the sole source of significant backup power supply in cooperation with the Gas Turbine 120MW power plant operator on duty. In a 24 hour period, that power plant would burn up to 22 x 10,800 gallon tanker truck loads of heating oil. To keep the lights on in Fairbanks, it takes 237,600 gallons of heating oil. It is ridiculous that we were depending on a tanker truck and a single transfer pump to keep the majority of the critical electricity on for residents north of Cantwell in weather as cold as -40 degrees Fahrenheit. On numerous occasions, there were times when Fairbanks was less than 8 hours from a power blackout due to fuel-related problems.

By creating this legislation that provides a streamlined process for approving SMR nuclear plants, you are paving the way to greater energy security in Alaska. Not only do we have access to more reliable and likely significantly cheaper electricity, we also have access to reliable heat. For district heating, such as in Downtown Fairbanks, this would allow for change from an extremely dangerous and unreliable coal plant to a carbon-neutral nuclear facility. This creates opportunities in recreation and food production, too. Swimming pools and sports facilities could be built or repowered to exploit the waste heat from this type of plant. We can grow food locally in economically viable greenhouses year-

round. On a trip to Iceland, I explored a facility that produces over half of the fresh fruits and vegetables that are consumed in the country, grown in greenhouses that are heated via geothermal heat (4). A nuclear facility would have similar costs and heating ability to allow for the production of fresh foods, locally. We experience some of the highest food costs in the nation due to being dependent on a very vulnerable supply chain that is held together by the heroic efforts of truck, train, and barge operators.

In the adoption of other low carbon intensity energy resources, one of the biggest problems that I have heard about from power plant operators is the cyclic and uncertain nature of power production from wind and solar power. For example, a gas turbine generation facility must be running on standby idle any time Eva Creek wind generation facility is producing significant contributions to the grid, because it can stop producing suddenly. This loss of power must be balanced and quickly backstopped by a reactive asset, like a gas turbine, on short notice. Nuclear power facilities can serve as a source of reliable, quickly reactive “baseload” power, that can serve to help maintain grid stability with future adoption of increasing proportions of renewable energy sources.

On the note of spent nuclear fuel waste, SMR’s produce a relatively minuscule amount of it, of which the majority can be safely transported back to the facilities that can reprocess it into newly usable nuclear fuel. Alaska also has remote areas in which mines already exist that could be repurposed as long-term geologic storage areas for spent nuclear fuel, where the chances of any sort of incident remain miniscule and manageable.

I wish to reiterate: our infrastructure and economic dependency on coal and petroleum extraction are beyond their prime. Please support the passage of this legislation, and future legislation to allow for Small Modular Reactors to be installed as part of our energy infrastructure in this state.

Thank you for very much for the opportunity to provide comment.

In democratic solidarity,

Ivan M Voronin

Ethical disclosure: I hold small amounts of publicly-traded stock in some nuclear power companies and developers, to include NYSE SMR, an equity of NuScale SMR reactor. My comments are presented in good faith for the people of the State of Alaska, and my equity position is primarily held in support of this technology. I am not employed by, nor do I have any influence beyond that of a “retail investor” on that or any similar company. All comments are my own, and in no way represent the views of my employer, the Alaska International Airport System or the State of Alaska.

Sources/further reading:

- (1) "The Diesel Crisis: Inventories Hit 14-Yr Low"; Mansfield Energy Corp; Web article; published May 6, 2022; accessed May 9, 2022; https://mansfield.energy/market-news/the-diesel-crisis-inventories-hit-14-yr-low/#msdynttrid=2V4vJYOMhjko-DomU_RLCBuulyPVdjg21l3WII7aZmo
 - (2) "Deaths from fossil fuel emissions higher than previously thought"; Harvard John A. Paulsen School and Engineering and Applied Sciences; Leah Burrows; published February 9, 2021; accessed May 9, 2022; <https://www.seas.harvard.edu/news/2021/02/deaths-fossil-fuel-emissions-higher-previously-thought>
 - (3) "Alaska's Polluted Air"; University of Alaska Geophysical Institute; Sue Ann Bowling; published October 26, 1987; accessed May 9, 2022; <https://www.gi.alaska.edu/alaska-science-forum/alaskas-polluted-air>
 - (4) "How Iceland is Revolutionizing Green Agriculture"; U.S. Green Chamber of Commerce; Web; published May 2, 2018; accessed May 9, 2022; <https://usgreenchamber.com/how-iceland-is-revolutionizing-green-agriculture/>
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I am writing in opposition to Senate Bill 177: "An Act relating to microreactors." This bill, introduced by Governor Dunleavy, encourages nuclear energy development in Alaska by eliminating the current statutory requirement requiring the involvement of the Alaska Legislature in designating land for nuclear energy. This is short-sighted, dangerous, and a false solution to our climate and energy struggles.

The entire lifecycle of nuclear energy production is destructive and deadly. Mining for uranium, which is done predominantly on Indigenous land, requires extraction through a chemical process that irreversibly pollutes groundwater, through the enrichment process, and finally the process of disposing of nuclear waste, of which there are no known safe ways to do so. The nuclear cycle is well-documented to be linked to cancers, serious disease, and environmental degradation. These burdens disproportionately harm communities of color and poor communities, poisoning lands, waters, and causing devastating health effects.

Nuclear industry proponents claim that these reactors represent a "new generation" of reactors and cannot be compared to the reactors that caused devastating disasters such as Fukushima and Chernobyl. As the Union of Concerned Scientists noted in their recent report evaluating modern nuclear technologies, including micronuclear reactors: "Advanced" Isn't Always Better.

Finally, we cannot overlook the sheer cost of nuclear energy. There are cheaper, safer, and renewable energy options available to us right now. Let's do the right thing by making the easy choice of not subjecting our state and our world to more dirty energy. I am urging you to not pass SB 177, which would only pave the way for disaster through the development of nuclear energy. We must work together as a community to reject false solutions to climate change and focus instead on safe, clean, renewable, and affordable options in powering Alaska.

Sincerely,
Ms. Shoshanah Stone

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Sincerely,
ms Lynn Wilbur
8515 Jennifer Dr Juneau, AK 99801-9092
kalei.lw@gmail.com

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Sincerely,
Mrs. Jill Wittenbrader
1315 W Kouskov St Kodiak, AK 99615-6556 jillwitt@gmail.com

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I grew up in Pennsylvania and lived through the Three Mile Island nuclear disaster. Later, as an attorney for the Pennsylvania Dept. of Environmental Resources, I learned just how close we came to a nuclear catastrophe -- and that reactor was built with many layers of government oversight, built in failsafes, onsite monitoring with real human beings present, and regular inspections by government inspectors. And yet, the accident happened and my family, my community, and a lot of the mid-Atlantic was almost destroyed. These so-called mini-reactors would have none (or far fewer) of the protections available at TMI, but all the same risks . . . and perhaps (probably?) more because of their remote locations. This is not acceptable for Alaska and Alaskans. There are better ways to provide cleaner, more sustainable, less destructive, less expensive, less risky power in rural Alaska -- and I am all for that!

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Sincerely,
Ms. Patti Saunders
3733 Henderson Loop Anchorage, AK 99507-2627 saunders.patti@gmail.com

Dear Representative Josiah Patkotak,

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Mrs Ernestine Hanlon Abel
454 AIRPORT Rd Hoonah, AK 99829
kasyyahgei@gmail.com

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Sincerely,
Mrs. Barb Brown
PO Box 24 Palmer, AK 99645-0024
barblily7@msn.com

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Sincerely,

Ms. Catherine Hollingsworth

245 E Kalli Cir Apt 2 Wasilla, AK 99654-6477 cathyk2p2@yahoo.com

To: The Honorable Chair Patkotak, Members of the House Resources Committee

I am proud to voice support for the passage of HB299/SB177 through our state's legislative process.

Humans began using tools hundreds of thousands of years ago. The water wheel greatly aided our distant ancestors, coal-fired steam engines enabled global trade across water and land, and the jet turbine allows us to traverse the globe cheaply and effortlessly. Every age of our species' development can be explained by a revolution in the harnessing of matter or light into work, whether it be the Stone Age with fire, the Bronze Age with the water mill & forge, and the Information Age with solar, nuclear, and abundant battery usage.

Alaskan communities both in and beyond the rail belt deserve an opportunity to participate in innovating carbon-free and inexpensive energy production. This bill helps small venture-backed firms working in the most highly regulated industry in the United States by reducing uncertainty in Alaska's regulatory environment.

Nuclear fission electricity generation is often mistakenly conflated with nuclear weapons,

and the distinction is essential to highlight: a warhead is engineered to release energy in an instant, whereas a reactor is designed to release the energy slowly over a period of years. Regarding overall safety, nuclear is far less dangerous than any fossil fuel currently used for power generation when considering injury and/or death per terawatt hour generated - 70 years of carefully-gathered historical data confirm this fact.

A useful example of the positive 'step function' in efficiency that nuclear power offers: in 2021, ~501 million tons (over 4 million train cars) of coal were consumed in the United States for electricity generation. This volume of coal in a year produces about 880 terawatt hours, or about a fifth of all electricity used in the United States. According to figures from the United States Energy Information Administration, ~22,500 tons of uranium are loaded into civilian nuclear power reactors per year, also generating about a fifth of the electricity used in our country. Replacing the semiannual delivery frequency of diesel fuel used for electricity generation in rural Alaskan communities with reactor fuel approximately every decade would increase the resilience and autonomy of communities, broadly reduce costs of heating, food production, and commercial and industrial enterprises while reducing the risk of petrochemical spills and the concomitant environmental damage from accidents and/or negligence.

I encourage the committee to thoroughly investigate the effects of this bill with the aid of experts from academia, industry members and our nation's regulatory bodies.

With warm appreciation,

Alex Smith - 1220 Glacier Ave., Juneau AK 99801
