House Bill 299

Testimony Packet

House Resources Committee

Dear Members of the House Resources Committee,

I oppose HB 299, a false solution to Alaska's energy needs. Micro-nuclear reactors have the potential for terrible harm to humans and the environment. Nuclear power is destructive from the moment uranium is mined to enrichment, and to the impossible problem of disposal of radioactive wastes. There is no way to safely ensure containment of the actual reactors or the waste products, for millennia into the future.

The idea of reducing or eliminating on-site operators and security operators for these small reactors is dangerous and irresponsible. One of them contains about 20 nuclear weapons' worth of nuclear and radioactive material and could cause significant destruction if damaged.

I'm appalled that, to make things easier for the mining industry, our Governor is trying to position these potential nuclear bombs in remote parts of Alaska where oversight would be negligible. Please defeat this short-sighted, destructive bill and focus instead on clean, renewable energy solutions.

Thank you for your time and attention.

Sincerely,

Luann McVey

Retired Alaskan Teacher

1507 2nd Street

Douglas, Alaska. 99824

Chair Patkotak and members of the Resources Committee,

My name is Gary Newman, a 50 year resident of Fairbanks, Alaska. To be transparent, I serve on the Golden Valley Board of Directors, but my testimony is solely my own.

I have long worked with and closely followed energy technology and policy, partly in conjunction with my professional career. I have participated in numerous presentations, some from ACEP's Nuclear Working Group who have hosted presentations by advocates and industry and their own presentations, as well as presentations to the legislative committees.

Speaking to HB 299,there are three sections.

1. 1. Remove the Legislature from having site approval over micro (nuclear) reactors plants for 50 mw gross capacity or less.

a. I support this. The Legislature is not the appropriate body for this. In conjunction with state agencies, the Regulatory Commission of Alaska is the more logical body. That should be made clear.

2. Removing the requirements of on-going studies otherwise required in AS 18.45.030.

a. This is problematic for several reasons that I describe below. I would suggest instead of eliminating 'on-going studies', you just modify the applicability by removing ‘on-going’ from that description.

3. Defining microreactors as being equal or less than 50 megawatts of electrical energy.

a. That is house-keeping for 1. above

Existing section referred to in 2. above:

Sec. 18.45.030. Conduct of studies concerning changes in laws and regulations with a view to atomic industrial development.

Each of the following departments and agencies of the state are directed to initiate and to pursue continuing studies as to the need for changes in the laws and regulations administered by it that would arise from the presence within the state of special nuclear, by-product, and radioactive materials, from the operation of production or utilization facilities, and from the generation of radiation, and, on the basis of these studies, to make the recommendations for the enactment of laws or amendments to law administered by it, and the proposals for amendments to the regulations issued by it that it considers necessary:

(1) the Department of Health and Social Services particularly as to hazards to the public health and safety;

(2) the Department of Labor and Workforce Development particularly as to hazardous working conditions;

(3) the Department of Labor and Workforce Development particularly as to the time and character of proof of claims of injuries and the extent of the compensation allowable;

(4) the Department of Transportation and Public Facilities particularly as to the transportation of special nuclear, by-product, and radioactive materials on highways of the state;

(5) the Department of Transportation and Public Facilities particularly as to the transportation of special nuclear, by-product, and radioactive materials by common carriers not in interstate commerce

and as to the participation by public utilities subject to its jurisdiction in projects for the development of production or utilization facilities for industrial or commercial use;

(6) the Department of Commerce, Community, and Economic Development particularly as to the insurance of persons and property from hazards to life and property resulting from atomic development;

(7) the Department of Fish and Game particularly as to the hazards to the natural resources of the state, including wildlife, and as to the protection of rivers, streams, and airspace from pollution;

(8) the Department of Natural Resources particularly as to the hazards involved in the mining of radioactive minerals;

(9) departments and agencies the governor directs and for the purposes specified by the governor, and other departments and agencies provided by law.

I would hope if you read the responsibilities assigned in Sec. 18.45.030. above, you will see that these are areas in which micro-nuclear reactors would be of concern to the State of Alaska.

The micro and small modular nuclear industry is in its infancy. Most proposed designs are in conceptual stage with a couple looking to Alaska sized demonstrations with a couple deployments undergoing initial testing at the Idaho National Lab. There are no commercially available units available and none expected for 6-7 years. My friend Gwen Holdmann and other experts noted in the Feb. 8 presentation before Senate Energy that there are lot of questions and issues yet to be resolved with deployment of micro-nuclear reactor units in Alaska and elsewhere. Attached is a Nov. 2020 status of development of this technology, the latest information I've seen.

The Nuclear Regulatory Commission (NRC) will certainly evaluate the units from the federal perspective. However, the State of Alaska has the responsibility for the health and welfare of our state and its citizens. With a new technology that has implications for multiple impacts, there are plenty of known unknowns and unknowns-unknowns. The State of Alaska should exercise due diligence by building expertise and knowledge across departments to weigh in on this still conceptual technology as it moves to live experimentation like the pilot project pending RFP by Dept. of Defense for a 1-5 mw pilot unit at Eielson Air Force Base, estimated functional by 2027.

The micro-nuclear reactor appeal is like a shiny new penny. It has been stated that nothing will change with this bill insofar as permitting by state or local governmental bodies. Neither the State of Alaska nor those local bodies have ever dealt with micro-nuclear reactors. Legislative committees have been almost entirely focused on hearing optimistic promises from the industry and proponents and some others totally opposed to nuclear, yet haven't thus far addressed the text of the bill and what it does. There has been no committee discussion I've heard that asks what permitting would be required by current state statutes or regulations for micro-nuclear reactors.

With no proven designs, there remains issues of transportation, refueling, security, workforce and operational capacity, and finally, like the entire nuclear industry for decades, what to do with spent fuel. Many of these are State of Alaska responsibilities and can be tailored to work in conjunction with NRC licensing. One industry provided estimated cost was $100 million for a 5 mw plant, other industry estimates were in the range of 40 cents/kwh or more, but nobody really knows. Dept. of Defense will provide some transparency with its Eielson pilot project. Copper Valley Electric Association can pursue a feasibility study.

To conclude, the State of Alaska needs to have a stake in the evaluation and development of this new still-conceptual method of power generation. Before pulling out all the stops, let's see the industry move further along to viable systems with the State's input. Please consider modifying the reference of eliminating the applicability of 18.45.030 'required on-going studies' to just eliminate ‘on-going’.

Sincerely,

Gary Newman

Fairbanks, Alaska

Exactly what our state needs! Heavily support this!

We have the ability to source nuclear fuels within the state.

The logistics associated with transporting technologies components such as wind turbines and solar panels to the location that they will be installed at, in these remote locations end up using more joules of energy to just install them than they will ever produce in their lifetime.

Often these facilities have to fly in technicians whenever they go offline. Or they let them sit. I know this from installing a wind turbine in Napaskiak, AK. While installing in these locations it has to have been well below freezing and often near -40 not including windchill, so the electrician installing it has to keep a diesel space heater going all day, as well as their vehicle. They have to drive their vehicle on the river, and once that is no longer viable they switch to snow machine, and once the river is unsafe to travel on, they have to charter planes. Then once it comes to installing the blades they have to install them via helicopter.

The turbine and column and all other components were shipped via barge that went from Seattle, up the arm, hitting stops along the way, to Juneau, Seward, Kodiak, Then going around the Aleutians and up to Naknek, Dillingham, then to Bethel, and then from Bethel it will head back out to the Bering and up towards the Yukon etc. This is the reality of getting any of these technologies to Alaska.

Where as we could build the Micro Nuclear reactor with materials sourced within our state.

This would also increase the Permanent Fund. The Alaskan constitution specifies that at least 25% of all "mineral lease rentals, royalties, royalty sale proceeds, federal mineral revenue-sharing payments, and bonuses received by the State shall be placed in a permanent fund."

I have also attached a paper I had written on related Nuclear Technologies using thorium salts as one source of fuel.

I am looking forward to this development.

I would like to add to the record that I am a UAA Senior student, pursuing Bachelor of Science Electrical Engineering, and minoring in Economics, Mathematics, Physics, and Political Science.

Joshua McHoes

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