February 2, 2022

The Honorable Calvin Schrage
Chair, House Committee on Energy
Juneau, AK 99801

Chairman Schrage:

On behalf of ClearPath Action, a 501(c)(4) organization working to advance policies that accelerate clean energy and industrial innovation, I am writing to express our support for the recently introduced legislation, HB 299, that would give communities the ability to explore microreactors as a source of clean energy and remove unnecessary barriers to deployment. Interest in Alaskan microreactors is growing from both the military and electric cooperatives.

The U.S. Congress, Department of Energy, and private industry have invested significant time and effort into researching and demonstrating new reactor fuels and operations enabling advanced nuclear reactors. This includes the advanced fuel used by the Ultrasafe Nuclear Corporation reactor being assessed for deployment in Valdez, as well as other microreactor concepts like the Oklo Aurora. Microreactors are 20 to 100 times smaller than conventional nuclear reactors and have the characteristics required for the harsh Alaskan climate.

This legislation not only removes the needless burden of State Legislature approval, allowing municipalities the ultimate say; but also removes a six-department study for each proposed project. Microreactors can be a reliable, financially competitive, and clean solution for communities reliant on diesel fuel generators. These tiny reactors are able to reliably supply both heat and electricity day after day, and communities are already exploring the possibility of deployment. We hope that you will support HB 299, which will remove unnecessary administrative barriers and show that Alaska is willing to explore game-changing technologies.

We look forward to working with you to advance this important legislation. Thank you for your leadership on this topic.

Sincerely,

Rich Powell
CEO, ClearPath Action

NUCLEAR ENERGY INSTITUTE

NUCLEAR
CARBON-FREE ENERGY

February 2, 2022

Marcus Nichol
Senior Director, New Reactors

1201 F Street NW
Suite 1100
Washington, DC 20004

202.739.8131

mrn@nei.org

nei.org

The Honorable Michael Dunleavy
Governor of Alaska
P.O. Box 110001
Juneau AK, 99801

Dear Governor Dunleavy,

Please submit this letter as part of the public hearing record in favor of HB 299. The Nuclear Energy Institute (NEI) applauds you for introducing HB 299, a bill encouraging the deployment of advanced reactor technology in Alaska. This is an important piece of legislation that will help accelerate the development, demonstration, and deployment of advanced nuclear power systems. The electricity sector in the United States has undergone significant transformation over the last decade and that transformation will continue. Ensuring that state energy policies are in place that enable commercial deployment of advanced reactors by the early 2030s is essential to ensuring an affordable, secure, and resilient electricity sector well into the future.

HB 299 will help spur safe deployment of the next generation of nuclear and continue Alaska's proud tradition as an American energy leader. While the United States once led the world in nuclear energy technology exports, we are no longer the leading supplier of nuclear reactors; we are in a race against other countries to capture a growing international market share, and by creating a pathway to commercial deployment here at home, we will unlock markets for U.S. technology across the globe.

Nuclear power is vital to the electricity system

New advanced reactor designs are being developed by entrepreneurial U.S. companies seeking to expand the value of nuclear technology to our energy system. These designs will be commercially available this decade and will be ready for large-scale deployment by the early 2030s to meet domestic and global clean energy needs. Enacting state policies that encourage the use of these new nuclear technologies is particularly timely, as the U.S. Energy Information Administration forecasts the retirement of 140 gigawatts of capacity by 2040 across the U.S. Advanced nuclear plants to replace this retired generation and to meet this growing

demand can be a vital part of the clean domestic electricity landscape.

Focusing only on the need for additional electricity in the U.S. in the upcoming decades would mistakenly overlook the likelihood of and the need for a significant increase in electricity demand worldwide. There are still nearly 1 billion people in the world without access to electricity, and many more live in nations with terrible air pollution that will only get worse unless clean energy options like advanced nuclear energy are deployed[1]. Providing these people with a clean, affordable, reliable source of electricity will significantly raise their standard of living. In addition, many countries are looking to a rapid expansion of nuclear generation to address their growing electricity needs. Therefore, it is imperative that new U.S. advanced reactors be available soon for both domestic and international deployment.

Nuclear energy is poised for a rebound the U.S.

NEI believes our nuclear energy future will include safe long-term operation of our existing nuclear power reactors through subsequent license renewals to allow operation out to eighty years; additional large light water reactors (LWRs); and widespread deployment of advanced reactors.

The existing domestic nuclear fleet is a central part of our nation's critical infrastructure and should not be taken for granted. Over the last eight years, eleven reactors that produced more than 8,300 megawatts of power have closed prematurely because many electric markets do not value nuclear energy for its carbon-free and baseload characteristics. Companies that own nuclear plants have announced the scheduled closure of an additional eight units of 8,100 megawatts capacity. Over the course of a year that amounts to more than 100 million megawatt-hours of clean generation that will have been lost by the early closure of these units. Fortunately, policymakers in states across the country have taken action to preserve fifteen reactors that were at risk of closing prematurely, by valuing those reactors for their emissions-free generation. These actions have had the added benefit for preserving more than ten thousand family-wage jobs. As policymakers in Washington DC and in the states place more emphasis on emission reductions and jobs, we are confident that they will enact additional policies that more fully value nuclear energy for all it delivers.

[1] U.S. Energy Information Agency – Electric Power Monthly (December 2021)

Although the U.S. led the world into the age of nuclear energy, we have lost ground to other countries with substantial, state-funded advanced reactor programs. The Russians are operating two commercial liquid-metal fast-reactors and the Chinese are bringing a commercial high-temperature gas pebble-bed reactor online. By the time the U.S. has an operational pebble-bed reactor, the Chinese will likely have 10 years of operational experience. Despite this loss of U.S. dominance, I am pleased to report that the U.S. government has stepped up its efforts to help our innovative companies develop new technologies so they can better compete with state-owned enterprise in Russia and China. Legislation like HB 299 ensures that our advanced reactor industry remains competitive on a global scale. All these developments and more have the U.S. nuclear energy sector well positioned for a bright future.

Advanced reactors are an economic powerhouse

The electric utility sector in the United States is rapidly evolving. NEI believes it is in the best interest of the U.S. that nuclear power remains a significant and growing supply of clean electricity as this evolution continues. Therefore, it is imperative that the commercial nuclear industry in the U.S. continue to rapidly innovate new products and designs so that these products are available when the market needs them.

According to a recent NEI report[2], micro-reactors can be a cost competitive and highly valuable part of our future energy system. The report concludes that micro-reactors could significantly reduce the costs of electricity and state subsidies for Alaskan Power Cost Equalization program (PCE) communities. These micro-reactors are highly resilient and reliable, clean and environmentally friendly, simple and safe, and are capable of producing electricity and heat through flexible on-demand operations.

Other reports, such as a recent SMR Start report[3], similarly conclude that slightly larger advanced reactors can also be a cost competitive and highly valuable part of our future energy system. The report also outlines the tremendous benefits to jobs and the economy that an advanced reactor can bring.

---

[2] https://nei.org/CorporateSite/media/filefolder/resources/reports-and-briefs/Report-Cost-Competitiveness-of-Micro-Reactors-for-Remote-Markets.pdf

[3] http://smrstart.org/wp-content/uploads/2017/09/SMR-Start-Economic-Analysis-APPROVED-2017-09-14.pdf

SMR Start has also identified options available to states that wish to support the commercialization of advanced reactors.

Advanced reactors offer unique benefits for Alaskan communities

NEI understands that Alaska's rural communities and industries face a unique challenge in reliably meeting their energy demands. We believe that advanced reactors, and microreactors specifically, will help communities satisfy their energy needs in rugged conditions not suitable for other energy sources.

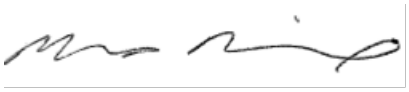
Although reactor designs vary by developer, their myriad of benefits have attracted considerable attention from industries and governments interested in reliable, carbon-free power. Some designs are capable of providing energy for up to a decade before refueling. Smaller designs allow operators a degree of mobility in power delivery unlike ever before.

In fact, the Department of Defense recently announced that Eielson Airforce Base will be the first facility in the nation to construct a new generation of advanced reactors. According to Mark Correll, Deputy Assistant Secretary of the Airforce for Environment, Safety and Infrastructure "this technology has the potential to provide true energy assurance, and the existing energy infrastructure and compatible climate at Eielson make for the perfect location to validate its feasibility."

Conclusion

We appreciate and applaud your support for nuclear energy that inspired HB 299. With this continued support and the dedication of the industry, NEI is confident that the U.S. will regain its leadership role in advanced nuclear technology and generation.
On behalf of NEI and its members, we thank you for introducing this important legislation. The legislation also will ensure that these economic engines continue to be the backbone of the nation's electric infrastructure. HB 299 will facilitate the development and deployment of innovative nuclear reactor technologies in Alaska and across the nation.

Sincerely,



Marcus Nichol
Senior Director, New Reactors
1201 F Street, NW, Suite 1100
Washington, DC 20004
202.739.8131
mrn@nei.org

CC:

Chairman Calvin Schrage, House Energy Committee

Chairwoman Shelley Hughes, Senate Community & Regional Affairs Committee

Chairman Josh Revak, Senate Resources Committee

NUCLEAR INNOVATION ALLIANCE

February 2, 2022
The Honorable Calvin Schrage
Chair, House Committee on Energy
Juneau, AK 99801

LETTER IN SUPPORT OF HB 299

The Nuclear Innovation Alliance (NIA) strongly supports the introduction in the Alaska legislature of HB 299, which lays out a blueprint for microreactor deployment to address energy demands and resilience needs. American advanced nuclear energy, supported by domestic innovation and public investment, is poised to offer new, clean, and reliable energy solutions to improve energy resilience this decade. American microreactor projects are entering licensing processes now and could debut as early as 2025. As the Alaska legislature considers how to promote clean, reliable energy, the NIA applauds this important first step in considering advanced nuclear energy and including microreactor technology as part of the state's overall energy strategy.

The Nuclear Innovation Alliance (NIA) is a non-profit think tank working to enable nuclear power as a global solution to provide clean and reliable energy. We are dedicated to encouraging innovation in technologies and business models to increase the affordability and availability of advanced nuclear energy as a tool for addressing critical reliability and energy security needs. Founded by environmental organizations, academic institutions, and private sector innovators, we work to identify barriers, perform analysis, engage with stakeholders, and educate policy makers.

Microreactors can reshape Alaska's power and energy industry. Microreactor designs vary in size and characteristics. Most are intended to produce between 1 and 100 megawatts of thermal energy that could be used directly as heat or converted into electricity. Microreactors will be factory fabricated, transported to the construction site, and located near energy users, which will lessen the difficulties associated with large-scale construction, shipping fuel to remote communities, and attaining energy resilience. Microreactors will also generally not require regular refueling. They are expected to have long core lives and can operate up to 10 years or more without refueling.

Alaska is an ideal location for a microreactor and Alaska can lead the way in broader microreactor commercialization. Alaskan communities typically experience high energy costs, a lack of energy access, and energy disruptions. Microreactor technology can alleviate energy insecurity and help Alaska's rural communities meet their energy resilience goals by providing the clean heat and electricity that an isolated community with harsh weather needs. Microreactors integrate readily into microgrid systems, which currently serve many Alaskan communities.

NUCLEAR INNOVATION ALLIANCE

We look forward to seeing this legislation move forward.

Sincerely,

Judi Greenwald

Executive Director

Nuclear Innovation Alliance

OKLO

February 2, 2022

Representative Calvin Schrage
State Capitol Room 104
Juneau AK, 99801

Dear Chairman Schrage,

I am writing on behalf of Oklo Inc. in support of an act relating to microreactors. This legislation paves the way for Alaska to deploy new technologies that are critical for the climate, American competitiveness, and national security. The United States has recognized the need to identify carbon-free power solutions to mitigage the effects of climate change, and there is no more reliable, safe, and efficient source of carbon-free energy than nuclear power. The world needs advanced nuclear to help put us on the fastest path to net-zero emissions. Alaska is poised to lead in bringing American designs to market, while helping meet the state's growing need for clean, reliable, cost-efficient power and heat.

This microreactor legislation paves the way for the deployment of microreactors to contribute to Alaska's growing need for clean, reliable, cost-efficient power and heat, while ensuring each proposed location is in the best interest of the local community.

With this bill, Alaska can provide a new means of strengthening its communities and fostering vibrant places to live. Advanced microreactors offer the unique ability to provide a scalable source of power and heat, matching the needs of the community it will support. Alaska can simultaneously pave the way for the commercialization of advanced microreactors, both locally and nationally. Oklo Inc. strongly supports this bill and welcomes the pioneering spirit behind it.

If you have any questions or need any additional information, please contact us at hello@oklo.com or (650) 550-0127.

Sincerely,

Jacob Dewitte
Co-Founder, CEO
Oklo Inc.
Santa Clara, CA

ULTRA SAFE NUCLEAR CORPORATION

February 2, 2022

The Honorable Calvin Schrage
Chair, House Committee on Energy
Juneau, AK 99801

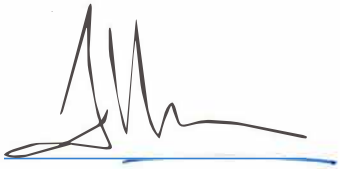
Chairman Schrage:

Thank you for taking the time to hear and consider an Act relating to microreactors. Our company, Ultra Safe Nuclear Corporation (USNC), has designed a microreactor with Alaska's unique challenges in mind and is already discussing with Alaskans whether our technology is the right fit for their energy needs. We believe this legislation removes uncertainty in the siting process enabling a more fruitful conversation with communities interested in our Micro Modular Reactor (MMR).

Under the current law, companies like ours are required to seek legislative siting approval for land proposed to be used to develop a nuclear power generation site. We understand that the current law was written at a different time when nuclear reactors were only available in large-scale and based on light water technology. Such technology required considerable amounts of water and Emergency Planning Zones (EPZ) that extended many square miles. Our MMR requires no water for cooling and can fit roughly into a baseball field with an EPZ proposed to stop at the fence line. We believe with advanced reactor designs, now is the right time to consider this legislative change and allow our company and companies like ours the opportunity to explore military and civil opportunities for microreactors in Alaska.

By removing the uncertainty over siting, this bill enables us to engage in the robust federal process that requires engagement with Alaska's governing and regulatory authorities, as well as Alaskans themselves, through the Nuclear Regulatory Commission's (NRC) licensing process. Indeed, we believe the passage of HB299 is necessary to allow the NRC licensing process to proceed as designed and intended. We intend to engage fully with the NRC to provide all information necessary to demonstrate the safety of our technology and be responsive to all the questions and requests required to meet their criteria for licensure. Moreover, we further intend to secure from Alaskans a "social license to operate" by proactively and transparently engaging with people living in the state.

We thank Governor Dunleavy for introducing an act relating to microreactors, and encouraging energy innovation for Alaskans. As your committee and legislative body consider this legislation and the role of nuclear energy in your state, please consider us an open resource. Thank you again for your time and service to the citizens of Alaska.



Francesco Venneri
Chief Executive Officer
Ultra Safe Nuclear Corporation
fvenneri@usnc.com
+1 (858) 353 9895

UNITED STATES NUCLEAR INDUSTRY COUNCIL
www.usnic.org

Date: February 2, 2022

TO: The Honorable Calvin Schrage
Chair, House Committee on Energy
Juneau, AK 99801

SUBJECT: An Act Relating to Microreactors (HB 299)

Dear Chairman Schrage,

Over the past several years, the United States Nuclear Industry Council (USNIC), along with many other nuclear and non-nuclear organizations, have highlighted the importance of advancing the United States' efforts to maintain leadership in the development and deployment of advanced nuclear technologies.

Advanced nuclear technology is perhaps the singularly most effective technology to address climate change and to provide reliable, cost-competitive, zero-carbon energy. Without nuclear energy, it will be realistically impossible to meet the numerous and ambitious goals set for carbon reduction. Deployment of U.S. advanced nuclear technologies is also vital to U.S. security, because nation-state nuclear offerings of Russia and China are a threat to U.S. international interests.

Microreactors and other nuclear reactors enable clean power to be available 24 hours a day, 7 days a week. In Alaska where solar insolation is low, where communities are isolated from a statewide grid, and when many communities rely on high-cost diesel fuel deliveries, small reactors offer many benefits.

The U.S. military sees the advantages of using microreactors in military bases in Alaska and are evaluating microreactors for their energy needs in Alaska (e.g., Eielson Air Force Base).

USNIC strongly support the initiatives of the Governor of Alaska and the Alaskan legislature for crafting and actively considering actions to facilitate microreactors and other small to medium sized nuclear reactors in Alaska. Accordingly, we urge the passage of the Alaskan legislation (HB 299) that removes requirements for the legislature to select sites. This will make siting of new nuclear reactors more straightforward and without unnecessary delay. Furthermore, a size limit of 50-megawatt electrical energy output seems like an appropriate first step.

We hope you will do necessary analysis and pass the appropriate legislation to enable nuclear reactor deployments to provide the benefits of reliable, cost-effective, zero-carbon energy sources for Alaskan people, local communities, utilities, and industry.

Respectfully,

Bud Albright
President & CEO
U.S. Nuclear Industry Council &
U.S. Under Secretary of Energy (2006-2008)

The United States Nuclear Industry Council (USNIC) is the leading U.S. business advocate for advanced nuclear energy and promotion of the American supply chain globally. USNIC represents over 80 companies engaged in nuclear innovation and supply chain development, including technology developers, manufacturers, construction engineers, key utility movers, service providers, and educational organizations.

Copper Valley ELECTRIC
A Touchstone Energy® Cooperative

February 4, 2022

Representative Calvin Schrage
House Energy Chair, Alaska Legislature
State Capitol Room 104
Juneau AK, 99801

SUBJECT: House Bill 299 Support

Dear Representative Schrage:

Copper Valley Electric Association (CVEA) strongly supports HB299, which will streamline the permitting process for Micro Modular Reactors (MMRs) that are 50 megawatts or less in size. When the original permitting legislation was passed some years ago, small-scale nuclear power generation technology was much less advanced. With current technology and sizing, simplifying the permitting process will facilitate field testing and deployment.

Given CVEA's large service area, our sparse, spread-out consumer base and our existing generation mix, our cooperative seems an ideal location for deployment and testing of an MMR. CVEA is blessed with economic hydropower in the summer months. But during the winter months when water sources freeze, we are largely dependent on liquid fossil fuels for power production.

Currently, with the very high cost of diesel fuel, our members' rates are double that of our warmer weather hydro generation. To overcome that disparity, CVEA has begun a feasibility study on a 10-megawatt MMR, in a modular configuration that would accommodate the "plug-and-play" addition of subsequent units. Initial indications are that this new generation source would significantly lower winter rates and stabilize them.

CVEA believes MMRs, if proven feasible, would provide immediate benefits to our consumers, as well of those of other electric utilities within our vast, lightly populated State. Feel free to contact me should you have questions or desire additional information.

Sincerely,

Travis Million
Chief Executive Officer