ALASKA STATE LEGISLATURE
HOUSE SPECIAL COMMITTEE ON ENERGY
May 8, 2025
1:06 p.m.

MEMBERS PRESENT

Representative Ky Holland, Co-Chair
Representative Donna Mears, Co-Chair
Representative George Rauscher
Representative Mia Costello

MEMBERS ABSENT

Representative Bryce Edgmon
Representative Chuck Kopp
Representative Cathy Tilton

COMMITTEE CALENDAR

PRESENTATION(S): COOK INLET ENERGY FUTURE

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

KELLY ROGERS, Manager
Marine Energy Council
National Hydropower Association
Washington, DC
POSITION STATEMENT: Presented a PowerPoint, titled "Marine Energy: Value to Alaska's Energy Mix."

DOUG JOHNSON, Director of Development
Ocean Renewable Power Company
Anchorage, Alaska
POSITION STATEMENT: Presented a PowerPoint, titled "American Tidal Energy Project."

ACTION NARRATIVE

1:06:09 PM

CO-CHAIR HOLLAND called the House Special Committee on Energy meeting to order at 1:06 p.m. Representatives Rauscher, Costello, Mears, and Holland were present at the call to order.

PRESENTATION(S): Cook Inlet Energy Future

[Contains discussion of HB 153.]

1:07:21 PM

CO-CHAIR HOLLAND announced that the only order of business would the Cook Inlet Energy Future presentation.

1:07:42 PM

KELLY ROGERS, Manager, Marine Energy Council, National Hydropower Association (NHA), gave a PowerPoint presentation, titled "Marine Energy: Value to Alaska's Energy Mix" [hard copy included in the committee packet]. On slide 2, she stated that NHA supports water power in all its forms, which includes hydropower, pumped storage hydropower, and marine energy. She pointed out that hydropower has provided Alaska with affordable power for decades, and she expressed the belief that marine energy could be used to compliment this source. She stated that she leads NHA's Marine Energy Council, advocating marine energy resources nationally. She pointed out that hydropower has been recognized recently in a presidential executive order, and this has been supported by Alaska's delegation in Washington, DC. She discussed the details, arguing that Alaska has the potential to take the lead in the development of marine energy technologies. She maintained that no other state has this same potential.

MS. ROGERS moved to slide 3 and stated that hydropower could be generated from waves, tides, and currents, in oceans, estuaries, and tidal areas. She stated that hydropower could also be generated from free-flowing water in rivers, lakes, streams, and man-made channels. She stated that research shows marine power could meet up to 60 percent of the nation's energy needs, with no generation variability. She noted that marine energy could replace the use of diesel in off-grid applications. She reiterated the understanding that Alaska has some of the best potential for marine energy in the country.

MS. ROGERS moved to slide 4 and discussed developments in marine energy. She stated that research from 2024 shows that the existing Railbelt grid could support 240 megawatts of tidal

energy without any additional infrastructure changes. She pointed out that the University of Alaska Fairbanks (UAF) and its partners are doing research on marine power. She added that national and international companies are coming to the state to explore projects in wave, tidal, and river technologies, and they have shown interest in the available markets. She discussed the technology developments in the Lower 48, Hawaii, Canada, the United Kingdom, and Europe.

MS. ROGERS moved to slide 5 and expressed the opinion that because Alaska contains every hydro energy resource, it is uniquely positioned to develop this energy. She suggested that remote communities would be able to replace their diesel usage with hydro energy, as this would be cleaner energy at a lower cost, with less supply disruptions. She argued that Cook Inlet is one of the best tidal resources in North America, as it has the potential to supply a utility-scale energy grid for local and industrial loads. She also discussed the potential for wave energy on the coast, especially in the Gulf of Alaska. She pointed out that inland rivers could offer riverine hydrokinetic energy, which would not require the use of damns or conversions, as this technology could be installed directly in the flow. She asserted that because of these available resources, the state would not be limited by geography or marine energy type.

MS. ROGERS moved to slide 6 and slide 7 and discussed the benefits of marine energy in the state. She asserted that marine energy would supply highly predictable, year-round energy, and it would be complementary to renewable energy technologies like wind and solar. As Alaska seeks to expand its economy, she suggested that marine energy would support energy-intensive sectors, such as data centers. She added that it would also support long-term economic development, as jobs would be created in engineering, construction, vessel services, and other fields. She continued discussing the potential for energy independence and security in the state, suggesting that this new energy supply chain would create long-term economic development and diversification. She moved to slide 8 and gave examples of other regions nationally and internationally that are researching and implementing marine energy resources. She suggested that these examples could provide policy approaches that Alaska could adopt.

MS. ROGERS moved to slide 9 and opined that if the state took steps to secure marine energy as a priority, investment opportunities and successful deployment would be created. She continued that if the state were to explore new policies on

marine energy, investors would be attracted to these opportunities. She urged the proactive steps of aligning infrastructure, creating a marine energy working group, and supporting demonstration projects. She maintained that these steps would not be risky, and they could have a large impact. In conclusion, she moved to slide 10 and thanked the committee.

1:24:17 PM

MS. ROGERS, in response to a series of questions from Representative Rauscher, stated that universities have training programs for marine energy jobs. She added that some of the marine energy jobs would require the same skillset that other energy sectors require. In response to a follow-up question concerning whether students are pursuing this career, she discussed the Marine Energy Collegiate Competition, which is a federal program. She expressed the understanding that this program is looking for more students, and she offered to follow-up with information. In response, she expressed uncertainty concerning the pay level for these jobs. She deferred to the next presenter.

CO-CHAIR MEARS expressed appreciation for the reference to small communities in the state that need to move away from diesel energy. She questioned the economic feasibility for the scale of the proposed projects.

MS. ROGERS, in response, stated that in example, Cook Inlet has more energy potential than the current demand in the Railbelt. She noted that this excess energy could be stored as hydrogen.

CO-CHAIR MEARS noted the state's struggle with the size of projects, pointing out that it has large energy potential, but not enough demand to meet this potential. She pointed out that this creates an economic challenge. In reference to the large number of remote communities in the state, she noted that projects would need to be scalable for these small areas to move away from diesel. She discussed the problem of cost regarding the projects for small communities.

MS. ROGERS stated that she would follow up after the meeting with examples of possible solutions to this problem. In response, she stated that she would also follow-up with examples of policy tools used to support this development.

1:32:13 PM

CO-CHAIR HOLLAND questioned the effects marine power technology could have on industries that function within marine areas.

MS. ROGERS, in response, stated that ongoing research is being done on how this technology would interact with its environment. She expressed the importance of sharing this research data, as policy could reference existing knowledge and the marine energy sector could learn from other sectors and their environmental integrations, such as with oil platforms and offshore wind stations. She stated that marine energy companies have used adaptive management on the deployment needs. In response to a follow-up question on any foreseeable permitting or regulatory issues, she expressed the understanding that regulators and permitters are not as familiar with marine energy as other energy sources, and this could cause timeline delays and increased costs. She added that federally, this would be considered a conventional hydropower license. She suggested that creating a marine energy license would streamline the process. She added that any potential offshore leases would go through the Bureau of Ocean Energy Management (BOEM). She noted that BOEM has only given one marine energy research lease, and this was for work on the Oregon Coast. Concerning a question on navigable river permits, she stated that this would be permitted through the Army Core of Engineers.

CO-CHAIR HOLLAND questioned whether the current federal administration has paused federal funding for marine energy projects.

MS. ROGERS responded that some of the federal funds for research development have been paused. She expressed the understanding that at the federal level, the issue of water power is bipartisan, and the president has expressed some support for marine energy because it would be a source of abundant energy. In response to a question concerning the integration of energy projects in Cook Inlet, she deferred the question to the upcoming presenter. She suggested that any coastal energy project should plan for the integration of marine power.

REPRESENTATIVE RAUSCHER commented that some river technologies have been implemented in Emmonak; therefore, "it is doable" per the state regulations.

1:42:28 PM

DOUG JOHNSON, Director of Development, Ocean Renewable Power Company (ORPC), gave a PowerPoint presentation, titled "American

Tidal Energy Project" [hard copy included in the committee packet]. On slide 2, he asserted that developing tidal energy could create an energy "dominance" for Alaska. He shared that he has been working on the American Tidal Energy Project since 2006, and ORPC has been deploying tidal energy technology since 2007. He discussed the history of ORPC, pointing out that now it is operating in four countries, with 70 more countries interested in projects. He pointed out the interest in the river system project operating outside of Lake Iliamna.

MR. JOHNSON discussed the potential of tidal energy in Cook Inlet. He explained that because of Cook Inlet's geometry, massive amounts of water move in and out of the inlet four times a day. He added that the inlet's extreme high tides also contribute to its potential. On the map on slide 4, he pointed out that the highest concentration of tidal energy in Cook Inlet would be near Nikiski, in East Foreland. He stated that the energy potential here is around 18 gigawatts, which is multiple times of the load for the Railbelt. He shared is personal career history, noting that he worked in the oil and gas industry in the past.

1:48:05 PM

MR. JOHNSON, in response to a question from Representative Rauscher, stated that currently there is a goal to develop 400 megawatts of energy by 2050; however, the American Tidal Energy Project would only be a demonstration project with the target of 2 megawatts by 2029. He pointed out the potential of capturing gigawatts of energy, adding that this would not be a target for the short term.

MR. JOHNSON moved to slide 5 and pointed out that $3 million has been awarded to phase 1 of the East Foreland project. He noted that a project in Puget Sound, Washington, has also received this award. He stated that one of these two projects would be selected by the U.S. Department of Energy (DoE) to go forward with the funding of $29 million. He explained that the East Foreland project is projecting a production of 2 megawatts. He stated that, if selected, phase 2 through phase 5 of the project would occur between 2025 and 2030, but currently the project is on hold with DoE.

1:51:05 PM

CO-CHAIR HOLLAND expressed the understanding that this project would be designated as an independent power producer. He

questioned the difference between a distribution supplier and a transmission supplier.

MR. JOHNSON responded that the demonstration project would be done on a small distribution scale because this would be more economical. He stated that the goal of having 400 megawatts by 2050 would be a transmission project into the grid. For this, he expressed the importance of having a submarine cable to transmit the energy north.

MR. JOHNSON moved to slide 6, which showed ORPC's turbine technology. He noted that ORPC is both the project developer and the technology provider. He discussed the power rating and the design of the technology. He moved to the next slide and pointed out technology from Europe that would also be deployed on the project. He noted that this technology is completely different from ORPC's technology, as it is like an underwater wind turbine.

MR. JOHNSON moved to slide 8 and pointed out ORPC's partners and financial backers. He noted that many of these organizations are based in Alaska. He moved to the next slide and pointed out the project's progress up to this point, which includes submitting documents to DoE, submitting a lengthy application to the Federal Energy Regulatory Commission, gathering 20 letters of support, and laying down groundwork for future phases.

1:56:19 PM

MR. JOHNSON, in response to a question from Representative Rauscher, stated that during the project development phase the wear on the bearings from the silt in Cook Inlet had been questioned. He stated that diamond bearing sets were created to address this silt. He explained that the dunes in Cook Inlet migrate, and this is why two different technologies would be deployed. He clarified that because ORPC's technology would be in the mid-water column, there would be no silt build up; however, the European technology would sit on the bottom, and this would need to be watched.

MR. JOHNSON, in response to a question from Co-Chair Mears concerning the use of preexisting platforms, stated that ORPC is working with Hilcorp on developing these platforms. He added that this would not be a priority for the American Tidal Energy Project, but their possible uses are being discussed.

CO-CHAIR MEARS questioned the updates that electrical systems would need for this technology to work.

MR. JOHNSON responded that tidal energy is highly predictable, and during the slack tide, power generation would go down. He explained that a system is being developed to integrate the slack tides. He also noted the importance of energy storage technology. In response to a follow-up question concerning the low energy from slack tides, he spoke about the placement of the [turbines] in conjunction with the resource, as the distance between these would determine the power production. He pointed out the different areas of concentrated water power.

2:03:45 PM

CO-CHAIR HOLLAND questioned the demand for this potential power, and he questioned the management of this demand with the potential large demand needed for other projects, such as with liquified natural gas projects. He opined that if more clean energy is to be created, there would need to be demand.

MR. JOHNSON responded that this demand would need to be driven by the market, with an incentive-based price program. As this would be a new energy sector, he asserted that it would need help to compete. He suggested that industry would need to be brought to the state in order to have the needed scale for this tidal energy production. He predicted that new industry would also build the state's economy for the future. He expressed the understanding that the governor is calling Cook Inlet "an energy super basin." He continued discussing the possibilities in the state for industry. In response to a follow-up question concerning who should take this action, he expressed the belief that this industry in the state should make this happen, with support from the legislature.

CO-CHAIR MEARS questioned the American Tidal Energy Project target date of 2050 for producing 400 megawatts of power. She expressed the understanding that the 25-year delay is because of the need for technology maturity, identification of demand, grid upgrades, and permitting and construction timelines.

MR. JOHNSON responded that the 400-megawatt timeline is only a goal at this point. He expressed the desire for the project to go faster; however, he noted that the infrastructure would need to be in place. He reiterated that there would need to be a market demand for this capacity, and he asserted that this should be the focus.

CO-CHAIR MEARS expressed the understanding that 400 megawatts would be obtained in stages of implementation.

MR. JOHNSON expressed agreement, adding that the 400 megawatts would be a conservative estimate on what is possible in Cook Inlet. He added that for full potential and cheap energy, large industry would be needed in the state.

CO-CHAIR MEARS expressed agreement that there needs to be more demand before Alaskans could have cheap energy. To incentivize energy production, she pointed out that the demand would need to be identified. She asserted that more than just suggestions would be needed; rather, a real discussion should be had with the numbers on what is available, and this would need to be pointed out to industry.

MR. JOHNSON expressed agreement, asserting that this is part of the future of the state.

2:15:37 PM

CO-CHAIR HOLLAND questioned what the legislature could do during the interim to clarify this demand. He pointed out some of the available demand markets, including markets for clean ammonia, hydrogen, sustainable aircraft fuel, and clean green energy. He expressed the opinion that more clarity would be needed to create this demand.

MR. JOHNSON expressed the opinion that Co-Chair Holland had provided a framework, and he asserted that the industry should lead the conversation. He continued that an ecosystem would need to be built, and industry participants would need to come together in a coherent way so contracts could be made. He added that this means money would need to be put forward. He predicted that if this could come together like the Trans-Alaska Pipeline System, "Alaska will be a perpetual energy superpower."

2:18:45 PM

CO-CHAIR HOLLAND, as prime sponsor, spoke to HB 153. He noted that the Railbelt utilities have not been prepared to speak to this bill. He stated that work on the proposed legislation and the Renewable Portfolio Standard (RPS) would continue into the interim, and this would be in conjunction with the utilities and Senator Bill Wielechowski's office. He noted that Amendment 2 [labeled 34-LS501\G.2, Walsh, 04/11/25] had been adopted to HB

153 during the meeting [on 4/24/25]. He pointed out that this amendment had prohibited the use of ratepayer dollars for any renewable energy project that would increase consumer rates as utilities worked toward compliance. He stated that this would include many projects that have been proposed, including the Susitna-Watana Hydroelectric Project. He expressed the belief that this was not the amendment's original intention, and this was a misunderstanding because a mix of energy would be needed to reduce the reliance on imported gas and the long-term cost of energy.

CO-CHAIR HOLLAND expressed the understanding that the concern has been that ratepayers would end up being responsible for the nonattainment fees in the proposed RPS. In response to this concern, he argued that new sources of energy would have the same expense as any renewable energy projects, and he referenced the presentations on Alaska's "world class" renewable energy potential. He cited the statistics on the proposed renewable projects, noting that the cost of past renewable projects has lowered with time. He provided several examples of this. He advised that if the state continues to rely on gas for heat and power, the increasing cost would be passed to ratepayers. He suggested that imported gas in 2027 would be double the current price, adding that imported gas would require extra infrastructure to be built. He spoke to the uncertainty concerning renewable energy, as heard during the committee's discussion on RPS; however, he pointed out there would also be uncertainty and risk concerning the price of natural gas.
CO-CHAIR HOLLAND made closing comments, expressing gratitude to everyone for their work during the session.

2:27:45 PM

ADJOURNMENT

There being no further business before the committee, the House Special Committee on Energy meeting was adjourned at 2:27 p.m.