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UNIVERSITY of ALASKA
Many Traditions One Alaska

December 8, 2022

The Honorable Michael J. Dunleavy
550 West 7th Avenue, Suite 1700
Anchorage, AK 99501

Re: Executive Summary of the University of Alaska's FY23 State Funded Projects

Dear Governor Dunleavy,

In FY23, the University of Alaska received funding from the State of Alaska for workforce development initiatives, critical research and facilities upgrades and modernization. Please find below the spending summary of the University of Alaska's FY23 state funded projects. A summary of actions taken to-date for each project is also attached, as well as forecasted estimates based on the best available information at this time. Supplemental information will be provided, as available.

	Project Total ($Thousands)	Spent/Committed YTD	6/30/23 Estimated	Completion
Base Operating				
UAA Health Programs	3,500.0	700.0	3,500.0	FY23
Alternative Energy	2,000.0	340.0	2,000.0	FY23
Health Clinical Placement Pilot Project	1,000.0	0.0[1]	1,000.0	FY23
Teacher Preparation Pilot Program	1,000.0	0.0[2]	1,000.0	FY23
One-Time Research & Workforce Development Funding				
UA Drone Program	10,000.0	200.0[3]	9,200.0[4]	FY24
Critical Minerals/Rare Earth Elements R&D	7,800.0	1,276.0	3,000.0	FY25
Mariculture R&DH	7,000.0	250.0	1,500.0	FY25
Heavy Oil Recovery Method R&D	5,000.0	900.0	2,000.0	FY25
Capital Funding				
Moore Bartlett Halls Renovation	23,000.0	1,600.0	Reported through CASR	FY25
Student IT System Modernization	20,000.0	200.0	Reported through CASR	FY25
Alaska Emerging Energy Opportunities	2,500.0	325.0	Reported through CASR	FY25
Maritime Works	2,000.0	0.0[5]	1,000.0	FY26
Rare Earth Elements Demonstration Facility (DOE match)	500.0	3.3	Reported through CASR	FY24
Rare Earth Mineral Security (DOE match)	250.0	0.0[6]	Reported through CASR	FY24
Health Programs Equipment	250.0	2.4	250.0	FY23

Thank you for your continued support of the University of Alaska system and our programs to grow Alaska's workforce. Please contact me if you have additional questions.

Pat Pitney, President

[1] UAA expects to have minimally 10% of the funds encumbered by December 31, 2022.
[2] To be disbursed in August 2023. By late May 2023, the UA should information on how many students received the funds and for how much.
[3] Anticipate encumbering $2,000,000 for radar and support by December 31, 2022.
[4] Multi-year compensation to faculty, equipment and system support. Simultaneous, multi-year funding anticipated with growth.
[5] Programs across the university system, in partnership with Maritime Works and AVTEC, are finalizing the budgets to begin implementation in the first quarter of 2023.
[6] Five-year capital project expires June 30, 2026; project may be completed sooner.

Project Update Summaries for FY23 State Funded Projects

Base Operating

UAA Health Programs ($3,500,000 base-operating)

This project is roughly 20% ($700,000) expended and encumbered.

The School of Nursing hired five new faculty and is in the process of conducting four additional searches. The School of Allied Health has an open recruitment for a Medical Assisting faculty and is initiating searches for faculty in Medical Imaging, Certified Nurse Aide, Surgical Technology, Pharmacy Technology, and Speech Language Pathology. Two term faculty in Social Work were hired at the beginning of the 2022-23 academic year. Both have clinical licensure in Alaska and are strengthening the university's ability to prepare students for entry level clinical social work practice in Alaska. The college is initiating the search process for seven additional behavioral health positions (two in Human Services, one in Justice, and four in Social Work).

Alternative Energy (ACEP) ($2,000,000 base-operating)

This project is roughly 17% ($340,000) expended and encumbered.

The Alaska Center for Energy and Power (ACEP) Interim Director J. Kasper and Senior Researcher G. Holdmann have been actively engaging with the Office of the Governor and the Alaska Energy Authority (AEA) as part of the AEA-led State Energy Security Planning Effort and the Office of Energy Innovation. The ACEP Data Collection and Management team focused on communication activities around data, staffing the program with team members skilled in data analysis, data management, and engineering data pipelines, and introducing and popularizing a data governance model for ACEP's dynamic, data-rich research ecosystem. ACEP's Education and Workforce Development team has made significant progress in several areas:

- Analyzed the results from the ACEP Undergraduate Summer Internship (AUSI) program and compiled a list of lessons learned.
- Organized and supported the Teaching Through Technology (T3) Energy Club - a group of high school students from Upward Bound programs at UAF and the University of Hawaii Maui College (UHMC) committed to developing energy solutions in their communities.
- ACEP staff presented to Dr. Alandra Nelson from the Office of Science and Technology Policy (OSTP) concerning ACEP's & T3 Alaska's education and outreach efforts.

A candidate for a joint postdoctoral position between ACEP and the UAA Institute for Social and Economic Research has been identified and is being actively recruited.

Clinical Health Placement Pilot programs for health ($1,000,000 base-operating)

As a quick recap, the Alaska State Legislature awarded these funds as a pilot project to offset costly expenses to our students required to participate in clinical health placements across the state as well as out of state. Students may apply online and the application is routed to the UAA, UAF or UAS program

director for the health program selected, the director verifies the application, which is then routed on to UAA OAA fiscal processing directly to the student. Applications will be approved and awarded on a first come, first served basis with preference given to full or part-time students relocating away from their home community or established residence.

- Rural Alaska placements: $1000 per week, plus one-time $800 travel expense, with a maximum of $6000 per semester
- Out-of-state placements: $1000 per week, plus one-time $800 travel expense, with a maximum of $7500 per semester
- Remaining in established home community: $500 per week, including fuel costs, with a maximum of $3000 per semester

This partial funding support is available for UAA, UAF and UAS full- and part-time students enrolled in specific health degree programs that require a clinical health placement of three weeks or more in rural Alaska, out of state or in the student's established home community. Funding preference will be given to students whose clinical placement requires that they relocate out of state or away from their home community. Students who remain in their home community or established place of residence participating in a clinical health placements of three weeks or more may apply for assistance or support with their cost of living expenses. Requests for retroactive financial aid or stipend support for fall 2022 will be considered as funding allows.

Noteworthy: On Friday, December 2, 2022, the Clinical Health Placement Pilot Project went live and began accepting applications. The number of applicants was approximately 50-60. These applications are being processed. Applications shall be processed under the entirety of the $1,000,000 is fully encumbered. Students will begin receiving their stipends or financial aid in 2023. Students were allowed to apply, retroactively for fall 2022.

As of today no funds have been encumbered however, by December 31, 2022, UAA should have minimally 10% of the funds encumbered.

Pilot program for teaching ($1,000,000 base-operating)

The Teacher Preparation Pilot program utilizes state funding to encourage students to complete an initial licensure and incentivize participation in the UA teacher preparation program that includes a year-long internship under a qualified mentor. The program off-sets program tuition costs during the final two years of degree completion, and off-sets students' living costs during the year-long internship of the initial licensure program.

UA will engage in intensive outreach through social media and collaboration with community colleges and rural campuses in January 2023, targeting anticipated UA AA or ECE AAS degree recipients for Spring 2023. The pilot program will target individuals who can complete the program in two years, in order to show proof of concept, specifically, students who have graduated from a UA institution with a 60 credit AA degree or a 60 credit AAS in Early Childhood Education. Applications will be prioritized for those with 5+ years of Alaska residency and those undertaking an internship in an off-road system community.

Currently, a uniform system/rubric for evaluating scholarship applications is being developed and agreed upon between UAF, UAA and UAS.

The collaborative group has a marketing committee that will give notice to this spring's internship applicant pool. Members of the pool will apply for a scholarship at that time as they apply for the internship year.

The money will be distributed to applicable students after April 1, 2023 (the application deadline). With a likely probability of students actually receiving the funds in August 2023 after being notified of qualification in late May/early June. By late May 2023, the UA should have figures regarding how many students received the funds and for how much.

One-Time Research & Workforce Development Funding:

UA Drones Program ($10,000,000 one-time operating)

This project is roughly 2% expended and has significant expenditures ($2M) for radar and support planned to occur by the end of 2022.

Currently, contracts and purchases associated with the largest expenditures for the project are being finalized. The status of the large expenditure efforts are: 1) awaiting the Master Services Agreement with Raytheon Intelligence and Space to be signed so the acquisition of the research and development radar for deployment at Nenana can be finalized (signature expected before the end of 2022), 2) finalizing the lease of land at Nenana Municipal Airport so we can proceed with building the budgeted building on it (lease to be signed before end of 2022, but design and construction of the building will occur later), and 3) negotiating with a potential drone manufacturer for the provision of the large drone test platform for unmanned aircraft cargo and infrastructure monitoring research and development.

Another major financial commitment currently in process is the hiring of two Aerospace Engineering faculty in the College of Engineering and Mines at UAF and the hiring of two Aviation Technology faculty members at UAF's Community and Technical College. These positions are spread over the next two years and include start-up funding for the faculty and graduate student support in the second year. We also are in the process of hiring the additional pilots specified in our budget (one pilot just accepted a position; we are interviewing others). The team has also committed to signing a conference support contract by the end of 2022 with the State's preferred event support team for the development of an Autonomous Systems conference that is tentatively scheduled for August in Anchorage.

The team has been conducting STEM outreach, raising our profile through conference presentations and participation, preparing to initiate the development of the three emerging technologies test ranges in Alaska, and conducting many other activities related to successfully laying the foundation for the State's new drone economy. Our efforts are being recognized. The Executive Director of the FAA's Office of Unmanned Aircraft System Integration, Jay Merkle, has said that Alaska is now the leader in Advanced Air Mobility (AAM). NASA defines AAM as "an air transportation system that moves people and cargo between places previously not served or underserved by aviation – local, regional, intraregional, urban – using revolutionary new aircraft that are only just now becoming possible." (https://www.nasa.gov/aam) Executive Director Merkle's words are high praise and proof that ACUASI is leading the entire field of drones forward from our home in Alaska.

UAA’s Community & Technical College is developing comprehensive training and certifications for the operation of unmanned aerial systems, in accordance with FAA guidelines for flight over populated areas. As the use of UAVs expands in both national security and commercial business, there is increased demand for skilled-operators and pilots. As a leader in aviation and aviation tech instruction, UAA is uniquely positioned to train the next generation of pilots in remote transportation and aerial systems. Funding is currently being expended in preparation for summer research and deployment.

Critical Minerals and Rare Earth Elements Research & Development ($7,800,000 one-time operating)

UAF:$5,800,000 one-time operating

This project is roughly 22% expended and encumbered. Progress is listed as follows:

- Separation Laboratory planning: the team toured separations labs at Idaho National Laboratory, met with two private research and development firms in Utah and met with subject matter experts at the University of Utah to develop collaborations. These labs were comprehensive chemical separations labs largely focused on the Department of Energy missions. The lab under design at UAF will be smaller and largely focused on Alaska's needs.
- Purchased a ICP-MS -LA (inductively coupled plasma mass spectrometry with laser ablation) instrument for the separations lab. The team is continuing to identify other necessary instruments for the lab.
- Currently finalizing the lab layout and working with UAF Design and Construction for the lab renovations.
- Contracted with a subject matter expert, ESP Research Inc. for assistance in identifying additional instruments for the separation lab and for assistance on lab layout.
- Delta Mining Center has ordered a mining truck, it is an articulated underground haul truck. Sandvik Mining & Construction will also be providing in-person training for the MAPTS staff. Estimated delivery July 2023.
- Currently working on a contract with a specialist in technical communication to assist with the development of recommendations on a CM/REE strategy for the state.
- Mining faculty have started working on curriculum development for self-paced courses focused on the mining process, the impacts on the environment, and how these impacts are mitigated. These courses will be provided to the public. To assist with the courses, we are working on a contract with on-line curriculum specialists, Curricu.me.

UAA: $1,500,000 one-time operating

- This project will advance new methods for extraction and development of Rare Earth Element (REE) resources through studying bio-weathering processing. If proven successful, this approach could alleviate safety and environmental concerns of traditional acid mining, and increase the efficiency of REE recovery. This novel approach combines new and established technologies, and could be applied to mineral deposits around the state, including Usibelli Coal Mine.

  Planning is in process for two years of field season activities including hiring research personnel, materials and testing. Funding (1.25 mil.) will bring on seasonal post-doc, technicians, and undergraduate students for field work testing and to assist principal researchers. Funding will also evaluate technological readiness, mineralogical analysis, and developing biofilm reactors to enhance the research process.

  As part of this project, UAA's Institute of Social & Economic Research (ISER) will also conduct comparative research evaluating Alaska's regulatory and environmental standards for petroleum and mineral development. The research will analyze the effects of Alaska regulatory standards and social institutions related to extractive activities with those elsewhere in the world. Funded research (.250 mil.) will help inform policymakers about best practices, address concerns by non- governmental organizations and close comparison gaps with other resource-based economies.

UAS: $500,000 one-time operating

- UAS Center for Mine Training (CMT) has embarked on a collection of short listening sessions with the Critical Minerals and Rare Earth players in the state of Alaska to better understand the workforce training demands of the state. UAS CMT has had quarterly meetings with UCORE to lockstep their needs for employees associated with the future building of a processing facility in Ketchikan. Recently UCORE has decided to schedule a facility in Louisiana and postpone the Ketchikan facility. UCORE has still committed to building the facility and developing the Bokan Mountain Project but has not set a timeline. UAS CMT has also had conversations with Usibelli Coal to see if there is a need to help train their workforce needs with regards to mechanics or welders. At this time Usibelli partners with UAF CTC to scholarship students in those programs.
- UAS CMT has also participated with the CORE -CM working group headed by Brent Sheets, Director of the Petroleum Development Lab at UAF to help provide workforce development training where needed. This working group meets weekly and participants are still collecting ideas of where the need is for research in the Critical Minerals space.
- To date, none of the "one time operating money" has been spent.

Mariculture Research & Development ($7,000,000 one-time operating)

UAF: $5,000,000 one-time operating

This project is roughly 5% expended and consists of 3 major components: the Alaska Blue Economy Center (ABEC), Alaska Sea Grant and mariculture lab.

The Alaska Blue Economy Center is coordinating with the University's research units to raise awareness and address mariculture industry needs, while creating opportunities to advance workforce development and coastal community engagement. ABEC will establish a Mariculture Innovation Research Fund to provide capital for applied research, conducted in partnership with industry, that addresses the state's

mariculture priorities as defined previously by the Governor's Mariculture Task Force, now the *Alaska Mariculture Alliance*. The fund will advance the strategic growth of the state's mariculture industry, while building capacity in applied research and strengthening the connection between academic and industry partners.

Alaska Sea Grant is actively working with the UA Invest in the New Blue Economy investment funds to expand mariculture opportunities for Alaskan residents. During the reporting period, a variety of activities were completed to meet project objectives:

- Contracted with a web developer and drafted content to create a new website for the Alaska Mariculture Research and Training Center.
- Designing a modular seaweed hatchery in Kodiak that will be used for training activities.
- Engaged a planning committee with diverse representation to host an annual mariculture conference.
- Offered two training workshops in the Beginning Kelp Farmer Hands on Workshop series (18 participants).
- Offered three webinars in the Access to Capital for Mariculture Businesses series (83 participants).
- Developing a series of short publications to provide mariculture information to seaweed consumers, farmers, transporters, and K-12 students.
- Regularly provide science-based information related to the marine shellfish and seaweed aquaculture to industry, policy makers, jurisdictional agencies, and the general public.
- Hired a mariculture training and development staff with an extensive background in mariculture operations and have several new positions coming online.

Mariculture Lab funds are being used to acquire experimental supplies and to support three graduate students. Financial support will be extended to one or two more students in Spring 2023. Currently, students are: 1) Establishing protocols to determine the optimal seeding density for kelp farming; 2) Designing an experiment to compare polysaccharides in Alaskan kelp; and 3) Setting up the experimental system to assess the effect of feed on abalone growth rates. All projects are geared towards the development of Alaska's mariculture.

UAS: $1,750,000 one-time operating

At UAS, legislative support has been used to enhance the mariculture programing and begin the work of infrastructure improvements. Specifically students enrolled in the Alaska Aquaculture Semester benefited from travel support that afforded them the opportunity to travel throughout Southeast Alaska and visit mariculture farms and operations, connecting with the industry and engaging their future employers. Program support also came in the form of modest equipment and supplies necessary to teach mariculture and hands-on ocean farming activities.

Additionally, effort has begun on improving the infrastructure necessary to support a robust Mariculture workforce development program at the UAS Sitka campus. Specifically, four primary alternatives have been identified including 1) the acquisition of a floating mariculture laboratory, 2) construction of a steel frame building, 3) renovation of existing campus facilities, 4) long term lease of existing wet-lab space. All of these options will serve the need of enhancing the infrastructure necessary to effectively offer mariculture programming. UAS has secured MCG Explore Design as the pre-engineering consultant for this phase and will begin working on the next phase of this project once the recommendations have been weighed and an alternative selected.

UAA: $250,000 one-time operating

The UAA Institute of Social and Economic Research (ISER) is researching the driving factors of

fisheries careers in Alaska communities. Fisheries based economies are often subject to boom or bust returns that can have substantial ripple effects across communities. These fluctuations may influence student aspirations, and decisions whether to enter fishery-sector employment. The project will provide a better understanding of how shocks in commercial fisheries impact community employment and youth educational outcomes. ISER has hired research personnel that will assist in executing the project, and both data acquisition and qualitative design for analysis is ongoing.

Heavy Oil Recovery Method Research & Development ($5,000,000 one-time operating)

This project is roughly 18% expended and encumbered.

To date, preparations were made for the research tasks, such as buying new equipment, maintaining existing equipment, and hiring students and postdocs. The details are listed as follows:

- Hired 1 Ph.D. student and 2 postdocs (currently on campus); one more Ph.D. student will arrive in Spring 2023.
- Upgraded and maintained existing equipment for the project, such as PVT system, coreflooding system, high-pressure high-temperature (HPHT) viscometer.
- Ordered new research equipment, such as SARA analysis, HPHT density meter, and GC analyzer.
- Signed contracts with sub-contractors.
- Received Ugnu heavy oil samples and determine their API degree and viscosity.
- Received Ugnu core/sand samples for the displacement experiments.
- Conducted weekly review meetings to discuss research progress and make changes to the research plan accordingly.

Capital Funds:

Moore/Bartlett Halls Renovation ($23,000,000 capital)

This renovation project is roughly 7% ($1,600,000.00) expensed and encumbered, with another roughly $300,000 expected to be expensed through December 31, 2022.

UAF Facilities Services and the Design Team of Bettisworth North Architects and Planners (BNAP) has advanced the design for the project to a 65% completion level. UAF has also selected a construction manager/general contractor, GHEMM Company. Both the design and construction firms are local to Fairbanks. Throughout the next three months, the three parties (UAF/BNAP/GHEMM Co) will continue to move the design to construction documents, run cost estimates to shore up or reframe certain design elements, and purchase long-lead materials such as the restroom fixtures. A risk management plan, work breakdown structure, and project schedule will also be developed to help inform purchasing and procurement timing, optimize early vacancies in the residence halls, and prepare the site ahead of the start of demolition. UAF Facilities Services and Residence Life are working on a furniture dispensation program, hopefully utilizing a public bidding process to identify a vendor(s) to remove and take off-site all of the sleeping unit furniture, which is being replaced through UAF auxiliary funds.

Overall, construction will begin May 1, 2023 and be complete and ready for move-in August 20th, 2024.

Student IT modernization ($20,000,000)

1% ($200,000) has been expensed and encumbered this far. Consulting engagements are underway. An RFP effort is also underway. Staffing efforts have increased at UAF, UAA and UAS. "Project spend" is expected to accelerate significantly in 2023.

The University of Alaska (UA) is progressing in its effort to modernize our student information system (SIS), which is a key component of our objective to improve student access and increase enrollment. The current SIS is 30 years old, challenging to use, filled with disparate customizations, and not optimized for mobile devices. As a result, the first phase of the project, now complete, was to determine whether to upgrade the current system or to consider an alternate vendor. To assist with this phase, we contracted a higher-education technology consulting firm to conduct a broad-scale gap analysis that helped us determine current abilities versus current and future requirements. The conclusion of this first phase, which included a market review of other potential vendors, led us to the second project phase of using the gap analysis to develop an RFP that will be issued to both the current and competing vendors. We are expecting to complete and issue the RFP no later than March 2023.

With the Go Live date for either a system upgrade or replacement not expected until Fall 2025, we have also used the gap analysis to develop a list of 50+ enhancement opportunities that could potentially be addressed in parallel to the system upgrade/replacement. We are currently prioritizing the list and speaking with the same higher-education technology consulting firm about how they can help address the opportunities. We expect work on a prioritized selection of these potential enhancements to begin in December.

Emerging Energy Opportunities (ACEP) ($2,500,000 capital)

This project is roughly 13% expended and encumbered. It consists of several major components including nuclear roadmapping, hydrogen research, railbelt project and research initiatives and investments.

Nuclear Roadmapping

- Alaska Nuclear Working Group - ACEP continues to lead the Alaska Nuclear Working Group (ANWG). Since the beginning of 2022, ten working group meetings have been held on a monthly basis and another meeting is scheduled for December. ANWG meetings are an opportunity to share developments regarding the nuclear industry relevant to Alaska and across the U.S and hear from experts. Guest speakers to date have included vendors, siting tool developers, radioactive waste disposal experts, etc.
- Community Presentations - Between August and October ACEP also presented at and hosted community nuclear energy town halls, one in Nome and two in Fairbanks, designed to help inform the public on new nuclear technologies. Eight public presentations on nuclear energy have been completed, in addition to several presentations to the Alaska Legislature via committee hearings.
- Stakeholder trip to Idaho National Lab (INL) – In October 2022, ACEP coordinated a site visit and tour of Idaho National Laboratory in Idaho Falls for Alaskan leaders and policy makers. Attendees included local and state government leadership, environmental advocates, utility representatives, private industry representatives, and university leaders.
- Engagement of Eielson Air Force Base – ACEP is helping convene local leaders and stakeholders to discuss interest in nuclear energy and at Eielson AFB to discuss the Eielson microreactor pilot program. Work is ongoing with the Airforce to guide community engagement efforts for their microreactor pilot in and around the Fairbanks area.
- ACEP and INL are working together to publish a series of one-page fact sheets covering a range of nuclear topics from nuclear use cases to an overview of advanced nuclear technology.
- Work commenced and is ongoing to plan and execute a nuclear roadmapping process. Coordinators from INL, ACEP, DEC, AEA, and DHS meet biweekly to discuss ongoing planning efforts and scope out the roadmapping process.
- ACEP is organizing several feasibility studies related to nuclear energy, with an initial focus on Nome. Currently, we are working on data collection for heat and power. We plan to model microreactor potential in comparison to other options, including incorporating a higher proportion of renewables such as wind energy.

Hydrogen Research

- Established the Hydrogen Research Working Group - ACEP created the Alaska Hydrogen Energy Working Group to facilitate stakeholders interested in following developments related to hydrogen and hydrogen carrier technologies, and in providing input related to proposed usage and future deployment in the state.
- Upcoming participation in Alaska Green H2 Roadmapping Session December 13-14, 2022. This is a two-day work session to create a roadmap toward a green hydrogen hub in Alaska's Upper Cook Inlet. This small event connects private firms and key Alaska infrastructure owners with an interest in producing, storing, transporting, or purchasing green hydrogen. Attendees will have the opportunity to provide early input and design on the development of green H2 infrastructure in Alaska.

Railbelt Project

The team has generated three descriptive scenarios of pathways to 100% decarbonization of the Railbelt transmission system in 2050. These scenarios are called the Centralized scenario, the Decentralized scenario, and the Energy Export scenario.

Research Initiatives and Investments

- Established the Alaska Tidal Energy Working Group - the newly formed working group will hold their first meeting on December 6. All interested stakeholders have been identified. Ben Loeffler, ACEP Research Engineer, will lead the workshop. Four additional workshops will occur early in 2023.
- Kotzebue Hydrokinetic Energy Resource Assessment - ACEP will conduct a current energy resource assessment offshore of the Kotzebue seawall to determine whether current energy converters are an option for the community of Kotzebue. This work will be co-funded by external Federal funds from the Office of Naval Research and this state funding.

Fisheries, Seafood and Maritime Programs (Maritime Works) ($2,000,000 capital)

The University of Alaska in partnership with Maritime Works co-sponsored a Fisheries, Seafood & Maritime Initiative Meeting on September 27th to provide an update on accomplishments and current projects within the Alaska Maritime Workforce Development Plan, discuss high-demand and emerging workforce needs, and determine priorities for fundraising and investment necessary to build a robust Alaska workforce. Participants included more than 40 representatives from state agencies, industry and organizations, and university and training providers representing all six economic regions of Alaska.

With industry's input, the following priorities were identified for investment:

All sectors:

- Personal services to introduce Alaskans to maritime career opportunities through outreach and recruitment and managing working groups to support the ongoing implementation of the Alaska Maritime Workforce Development Plan and its associated Action Agendas.

Fisheries:

- Train Fisheries and Management workers to increase Alaska's skilled workforce. Strategic investments to support the goal include: Travel and scholarships for students to increase access from rural Alaska, partnering with Career Services on career fairs to support student recruitment and to increase internship opportunities for hands-on experience, and development and distribution of marketing resources to increase awareness of and recruitment into Fisheries programs.

Seafood:

- Train Seafood Harvesters in skills that increase value and encourage new entry. Strategic investments to support the goal include: curriculum development for crew class and an apprenticeship program, travel for training, and equipment to support hands-on experiential learning.
- Train Seafood Processing workforce that increases equity and access to higher paying and skilled positions, particularly for underserved populations and in underserved communities. Strategic investments to support the goal include: equipment and personal services to support the delivery of ammonia refrigeration and seafood processing training.

Maritime

- Train Vessel Repair Technicians to support small business and seafood harvesters and other vessels users in coastal communities across Alaska. Strategic investments to support the goal include: Yamaha Marine Technician train the trainer program, Yamaha Advanced Industry Training, travel to participate in train the trainer, and investments in two satellite Yamaha training locations to increase statewide access.
- Train Vessel Operations workers for marine transportation and marine cargo positions across Alaska. Strategic investments to support the goal include: USCG Training Fire Field upgrades at the maritime training centers at UAS Ketchikan Campus and the Alaska Vocational Technical Center, a division of the State of Alaska Department of Labor and Workforce Development.

Programs across the university system, in partnership with Maritime Works and AVTEC, are finalizing the budgets to begin implementation in the first quarter of 2023.

Rare Earth Elements Demonstration Facility ($500,000 capital)

**This is a 5-year capital project that expires 6/30/2026.*

This project is less than 1% expended and encumbered. The intent of this appropriation is to provide support to respond to anticipated Department of Energy (DOE) Funding Opportunity Announcements (FOAs) regarding a REE Demonstration Facility. To date, DOE has not issued a suitable FOA for which to apply for a demonstration facility.

UAF is in close collaboration with two companies and had been planning to submit proposals once this FOA was issued. The two companies are UCORE and CVMR. Unfortunately, under the terms of the FOA, these companies were ineligible to apply with UAF since both are based in a foreign country, Canada. Immediately after DOE issued the FOA prohibiting foreign companies from applying, the PI, Brent Sheets, requested DOE reconsider this requirement, but to no avail.

Moving forward, UAF anticipates DOE to issue an FOA seeking to establish a consortium of academia, national labs, private sector companies, and potentially other stakeholders. UAF has been invited to collaborate with the Critical Mineral Institute (Ames National Lab), Idaho National Lab, National Energy Technology Laboratory, University of Utah, and potentially others in anticipation of DOE issuing this FOA, potentially as soon as early December. As envisioned, Ames National Lab would take the lead as the prime awardee.

Rare Earth Mineral Security ($250,000 capital)

**This is a 5-year capital project that expires 6/30/2026.*

UAF Institute of Northern Engineering (INE) will use these funds for match/cost share towards the Department of Energy (DOE) funded Carbon, Ore, Rare Earth, and Critical Minerals (CORE-CM) project for the development of the Technology Innovation Center at UAF, and working with the UAF Office of Grants and Contract Administration to set up associated match funds. Additional equipment needs for the Technology Innovation Center have also been discussed as use for these funds as well as contracting with industry and expert partners. As of November 22, 2022, no funds have been expended on this project. However, there is an expectation of being fully expended by end of FY24.

Health Programs Equipment ($250,000)

The College of Health is researching innovative simulation equipment and technologies that will support health care education delivery models in Alaska. The Interprofessional Health Sciences Simulation Center sent one staff to a conference/trade show to explore new healthcare simulation products. The College is working to procure tools for using virtual reality modalities for simulation that could be easily deployed into a wide range of education settings.