



University of Alaska Fairbanks

FY 17 **Operating and Capital Budget** Request Summary and Narrative August 2015

THE **CORNERSTONE**
OF ALASKA'S EDUCATION SINCE 1917



UAF FY17 Operating Request: Fixed Costs & Program Enhancement to Assist in Shaping Alaska's Future

August 2015

UAF Draft Budget Request - updated August 19, 2015, 5:30pm					
UAF FY17 FIXED COST INCREASES		State Appropriation	Receipt Authority	Total	
Personal Services Fixed Costs Increases	FTE	\$ 10,854.6	\$ 10,854.6	\$ 21,709.2	
* FY16 One-time Funding Replacement		5,063.0	5,063.0	10,126.0	
* FY17 Fairbanks & Community Campus Adjustment (Est.) - 2.5%		2,841.6	2,841.6	5,683.2	
* FY17 Benefits Fairbanks & Community Campus Adjustment (Est.)		2,950.0	2,950.0	5,900.0	
Regulatory Mandates		\$ 1,380.0	\$ 125.0	\$ 1,505.0	
* Title IX Compliance - Prevent/Respond to Campus Sexual Harrassment	1.0	205.0	-	205.0	
* Disability Support Coordinator & Services	1.0	150.0	-	150.0	
Pure Drinking Water & Privatization for the Fairbanks Campus		900.0	-	900.0	
* Compliance Officer: Research Integrity	1.0	125.0	125.0	250.0	
Non-Personal Services Fixed Costs Increases		\$ 1,858.0	\$ 700.0	\$ 2,558.0	
* E-Journal Subscriptions for Rasmuson Library & Campus-wide Software Technology Tools		600.0	-	600.0	
* Facilities Maintenance & Repair (M&R) (Est.)		1,258.0	700.0	1,958.0	
Utilities Increases		\$ 6,464.3	\$ 600.0	\$ 7,064.3	
* Utility Costs - Annual Increase (Est.)		1,964.3	600.0	2,564.3	
* Utility Replacement Funding - Loss of Trigger Mechanism (UAF Impact)		4,500.0	-	4,500.0	
New Facility Debt, Lease, Operating & Maintenance (O&M) Costs		\$ 1,904.8	\$ -	\$ 1,904.8	
* Engineering Building O&M (based on partial completion as % of TPC):		1,659.8	-	1,659.8	
<i>Utilities, Custodial, Grounds/Landscaping, Insurance</i>		290.3	-	290.3	
<i>M&R</i>		1,369.5	-	1,369.5	
Bristol Bay Applied Science Center		65.0	-	65.0	
Process Technology Program Lease & Facility Operations		180.0	-	-	
Estimated Fixed Cost Increases Total		\$ 22,461.7	\$ 12,279.6	\$ 34,741.3	
Program Request as a % of FY16 Operating Budget (excl. OTO funds)		13.4%			
UAF PRIORITY PROGRAM ENHANCEMENT - Shaping Alaska's Future Themes					
Theme 1: Student Achievement & Attainment		FTE	\$ 200.0	\$ 241.0	\$ 441.0
Complete the Establishment of the Collaborative 2+2 Alaska Veterinary Medicine Program with Colorado State University	2.0	200.0	241.0	441.0	
Themes 2 & 3: Productive Partnerships - Public Entities, Private Industries & Schools			\$ 725.0	\$ 450.0	\$ 1,175.0
Meet Chemical Engineering Degree Demand to Support Growth of Alaska LNG/Oil/Gas Refining Industries	4.5	400.0	450.0	850.0	
UAF & Tribal College Community Campus Partnerships	0.0	200.0	-	200.0	
* Expanding Teacher Education throughout Alaska	1.0	125.0	-	125.0	
Theme 4: Research & Development to Sustain Alaska's Economic Growth			\$ 642.0	\$ 2,165.0	\$ 2,807.0
Understanding the Impact of Ocean Conditions on Commercial Fisheries	2.0	227.0	65.0	292.0	
Energy Partnerships for Alaska's Future (ACEP)	1.0	250.0	2,000.0	2,250.0	
Develop Economically Viable Crops with Alaska Farmers in the Mat-Su Region	1.0	165.0	100.0	265.0	
Priority Program Enhancement Total		\$ 1,567.0	\$ 2,856.0	\$ 4,423.0	
Program Request as a % of FY16 Operating Budget (excl. OTO funds)		0.9%			

UAF FY17 Operating Budget Request Narratives

FIXED COST INCREASES

Personal Services

(GF \$10,854.6, NGF \$10,854.6, Total \$21,709.2)

FY16 Personal Services (Est.): Fairbanks & Community Campuses

(GF \$5,063.0, NGF \$5,063.0, Total \$10,126.0)

This request covers 50 percent of the FY16 compensation increases for Fairbanks and the UAF community campuses. As these are ongoing costs for UAF, the one-time commitment for UA compensation funding in FY16 will leave a shortfall in FY17. This is a request for ongoing replacement funding.

FY17 Personal Services (Est.): Fairbanks & Community Campuses*

(GF \$2,841.6, NGF \$2,841.6, Total \$5,683.2.0)

This request covers 50 percent of the FY17 compensation for Fairbanks and the UAF community campuses. This estimate is based on a 2.5 percent grid adjustment for represented and non-represented employees, and will continue to be refined over time.

FY17 Benefits (Est.): Fairbanks & Community Campuses*

(GF \$2,950.0, NGF \$2,950.0, Total \$5,900.0)

The UA System estimates benefits will increase by \$11.9 million for FY17. UAF is approximately 50 percent of this UA System total. This estimate will continue to be refined over time.

REGULATORY MANDATES

(GF \$1,380.0, NGF \$125.0, Total \$1,505.0)

Title IX Compliance & Transcription - Prevent/Respond to Campus Sexual Harassment*

(GF \$205.0 UAF - GF \$200.0 UAA - GF \$95.0 UAS)

The State of Alaska has the highest rate of sexual and domestic violence in the country. Because of this statistic there is heightened scrutiny by the federal Office of Civil Rights (OCR) on UA's compliance with Title IX mandates to combat sexual assault and harassment. Universities are required to do more to protect the rights and educational access of students who are affected by sexual misconduct. With locations throughout the State, the compliance challenge affects a significant portion of the UA campus communities. Title IX mitigates the detrimental effects of sexual misconduct by promoting, fair and impartial investigations and requiring remedies to eliminate the effects of harassment. Investigations include, but are not limited to, allegations related to dating violence, gender discrimination, sexual violence, sexual harassment, domestic violence and stalking on UA's campuses.

This is a joint request providing a Title IX compliance position in Anchorage, Fairbanks and Juneau. Federal requirements are increasing and the establishment of an additional staff position in each location will maximize the institution's ability to address OCR requirements, educate constituents about their rights/responsibilities and take necessary steps to prevent the recurrence.

Investigations require recorded interviews to capture the evidence stated by the accused, the complainant and any witnesses. For efficiency and for timely response (as required by law), UAF is also requesting funding for transcriptionist services.

Title IX works to return complainants of such violations to their pre-incident status as well as provide mandated training and preventative programming creating a zero-tolerance environment and culture of reporting all instances of discrimination without fear of reprisal. It is equally important for the Title IX team to build partnerships with university and local police departments, Standing Together Against Rape (STAR), Abused Women's Aid In Crisis (AWAIC), Green Dot (a domestic violence prevention program), and Aiding Women in Abuse and Rape Emergencies (AWARE Inc.), to serve as leadership in addressing gender discrimination and violence in Alaska.

The provisions of Title IX and related regulations are specifically intended to ensure that students are able to succeed (student success) and that the teaching and learning may take place in an environment free from violence, discrimination and harassment. These issues inherently impact and are impacted by the local community. Responding to these issues will involve a coordinated approach between the campus, local law enforcement, and community support organizations.

Disability Support Coordinator & Services*

(GF \$150.0 UAF - GF \$100.0 UAA)

Providing reasonable accommodation for otherwise qualified students with documented disabilities is a requirement under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (ADA). The 2008 amendments to the ADA expanded the definition of disability and extended protections to a greater number of persons. The amendment significantly increased the workload in the Disability Services Offices, and UA anticipates that this upward trend will continue in future years. Failure to adequately fund appropriate and timely accommodation of students puts the institution at risk of violating the law. Current staffing levels struggle to meet the needs of our students.

Since the ADA amendments took effect, the Disability and Support Services (DSS) offices across the UA System have experienced increased demand for services and required accommodations.

A growing number of students are expected to request accommodation in future years as UA expects to attract and retain students, including military veterans who frequently present physical, as well as mental, disabilities. This joint funding request is intended to ensure UA Disability Support Services meets its federally mandated obligations to students with disabilities. Positions and services will be located in Anchorage and Fairbanks, but will also provide support services to rural Alaska locations.

Pure Drinking Water & Privatization for the Fairbanks Campus

(GF \$900.0)

In April of 2015, UAF water quality levels on the Fairbanks Campus were found to exceed federal limits for total trihalomethanes (TTHMs), and although safe to drink, are important to monitor in groups with compromised immune systems, in infants, the elderly and women expecting children. Trihalomethanes form in drinking water when chlorine, which is used to

disinfect drinking water, reacts with natural organic material (often found in Fairbanks well water and aging distribution water systems). UAF is currently staffing a high-level of filtration and monitoring operations to mitigate water risks to the Fairbanks Campus community; however, this is not easily sustainable and purchasing water from College Utilities would reduce long term costs and health and safety risks.

The cost to operate increased (24x7) water treatment filtration and monitoring operations (as recommended by the Environmental Protection Agency) are estimated at \$700 thousand annually including new staffing, and new one-time costs for installation of additional disinfection/filtration systems are estimated at \$300 thousand. The cost to privatize and purchase water via College Utilities, which would also allow UAF to staff water treatment/monitoring in a reduced capacity over time and mitigate risk to sensitive groups, is estimated at \$900 thousand annually. UAF is making strides to monitor and use water efficiently across the Fairbanks Campus. In order to find the most sustainable and safe model for water distribution across campus, UAF requests this funded increment.

Compliance Officer*: Research Integrity

(GF \$125.0, NGF \$125.0, Total \$250.0)

The UAF Office of Research Integrity (ORI) promotes integrity in research and teaching while ensuring a safe and productive work environment. ORI facilitates the responsible conduct of research through educational, preventive, and service activities. Ensuring the integrity of the research record is one of the central goals of responsible conduct in research training. Researchers in all fields rely on others to limit or acknowledge bias and to accurately report their findings. Although the burden for ensuring the integrity of the research record lies predominantly with the researchers themselves everyone involved in the research process, whether they are collaborators, students, technicians, administrators, or volunteers, has a role to play in supporting the responsible conduct of research.

This request for one regulatory personnel position (1 FTE) will facilitate required training/certification and post-approval monitoring components that are currently not staffed at an acceptable level, which presents a risk to the university. Compliance officers are charged with monitoring of the Animal Care and Use Program (strategic as it is closely connected to the expansion of the Veterinary Medicine high demand program), Human Protections, Biosafety, and other Federal regulations (often associated with international grants or moving intellectual property/assets across geographic/international boundaries). This request will allow the institution to realize a robust compliance program to withstand the level of oversight and inspection to which it is subject. A high degree of training and education is required for this position.

Non-Personal Services Fixed Costs Increases

(GF \$1,858.0, NGF \$700.0, Total \$2,558.0)

- **Electronic Journal Subscriptions for Rasmuson Library & Campus-wide Technology Software Tools***

(GF \$600.0 UAF - GF \$200.0 UAA/UAS)

Access to the most current information resources and scientific knowledge is vital for UAF students, faculty, staff and researchers. Technology enables and enhances every function, every business process, every facet of UAF. Typically these systems require an ongoing annual licensing renewal with a percentage increase each year. These renewals are

essential and required to continue using the technology that run the university. These resources are essential for instruction, research, and applying for grant funding. In addition to serving Fairbanks, the Rasmuson Library is responsible for the delivery of library resources to UAF students, faculty, researchers and staff throughout Alaska at UAF rural campus and learning centers, including Northwest Campus, Chukchi Campus, Bristol Bay Campus, Interior Aleutians Campus and its learning centers, Kuskokwim Campus, and all eLearning and Distance Education students.

When possible, journal subscriptions and other media resources are shared with UAA and UAS campuses to be cost-efficient. In FY16, expenses in this area were reduced by over \$120 thousand via subscription cancelations; however, the journal subscription costs continue to rise at a rate of 10 percent per year. Without additional funding, further reductions in popular and high-use subscriptions will be required.

- **Facilities Maintenance & Repair (Estimate)***

(GF \$1,258.0, NGF \$700.0, Total \$1,958.0)

UAF's annual maintenance and repair is calculated between 1.1 and 1.5 percent of current building value. Each year the annual operating budget dedicated to facilities maintenance, often referred to as M&R, is increased to keep pace with the ever-increasing building maintenance need. This request covers that requirement and will be refined by the Statewide Budget Office.

Utility Cost Incremental Increase (Estimate)

(GF \$1,964.3, NGF \$600.0, Total \$2,564.3)

This request covers the projected FY17 utility and fuel cost increases. This estimate will continue to be refined.

Utility Replacement Funding: Loss of State Trigger Mechanism

(GF \$4,500.0)

UAF has historically carried a base gap in funding support for utilities of about \$4.5 million annually, which UAF relied on the state "trigger mechanism" to fill. This request covers replacement funding for the UAF portion of the utilities shortfall as a result of the removal of the trigger mechanism. The trigger was removed prior to the budget reductions that occurred in FY16 and functions as a direct and additional reduction to this critical fixed cost obligation. This estimated is derived from an average of the last three UAF trigger utilities distributions, currently not funded by the state budget.

New Facility Debt, Lease, Operating & Maintenance (O&M) Costs

(GF \$1,904.8)

- **Engineering Facility O&M (based on partial facility completion)***

(GF \$1,659.8.0)

This increment provides the funding necessary to meet the ongoing operating costs associated with the partial completion of the UAF Engineering Facility. This estimate is based on a percent of the total project cost for utilities, custodial, grounds/landscaping, insurance and maintenance and repair (M&R). The remaining O&M funding will be requested upon completion of the facility.

- **Bristol Bay Applied Science Center**
(GF \$65.0)
This increment provides the funding necessary to meet the ongoing operating costs associated with the acquisition of the Bristol Bay Applied Science Center which houses the campus nursing and applied science programs.
- **Process Technology Program Lease & Facility Operations**
(GF \$180.0)
Technical and Vocational Education Program (TVEP) funding has been used in the past to cover the lease costs associated with the Process Technology program facility and expansion, operations and shuttle service. TVEP funding is incrementally declining and there is a need to expand the program footprint. This space is needed to meet essential instructional and program needs for the Process Technology, Instrumentation, and Safety/Health/Environmental Awareness programs.

PRIORITY PROGRAM ENHANCEMENT

Student Achievement & Attainment

Complete the Establishment of the Collaborative 2+2 Alaska Veterinary Medicine Program with Colorado State University

(GF \$200.0, NGF \$241.0, Total \$441.0)

Throughout the state, there is demand for veterinarians who understand the unique needs of Alaska's pets and farm and work animals. In addition, Alaska's young people are eager to pursue a career in veterinary medicine but face challenges because veterinary programs in the Lower 48 usually have a strong preference for in-state students. To address that need, UAF formed a partnership with Colorado State University (CSU) that will allow students to complete their undergraduate veterinary education plus the first two years of their professional program at UAF. Students will complete their final two years at the veterinary teaching hospital at CSU. The Legislature provided \$200 thousand in initial funding (FY14) to hire veterinarians to design the program. Through strategic reinvestment, UAF allocated additional funding to hire faculty and staff, and renovate space for the program. A special tuition surcharge will also help support the program. The first class has been admitted and will enroll at UAF in fall 2015. This request is for the funding for the final two faculty positions, needed primarily to teach year two classes. This program will address both Alaskan workforce needs and provide a specialized education that will appeal to many of Alaska's students.

Productive Partnerships:

Alaska's Public Entities, Private Industries & Schools

Meet Chemical Engineering Degree Demand to Support Growth of Alaska LNG/Oil/Gas Refining Industries

(GF \$400.0, NGF \$450.0, Total \$850.0)

This increment will serve as the State portion of a planned partnership to build a Baccalaureate degree in Chemical Engineering (ChE) in Alaska to meet industry demand. A three-part funding approach is envisioned for this program, including state support, chemical engineering industry funds and tuition revenue. Petroleum and petroleum products, the

energy conversion process, and minerals processing industries need to be supported by chemical engineers with fundamental appreciation for, and experience with, living in Alaska. Currently all engineers working in Alaska on projects demanding chemistry expertise were educated outside of Alaska or hold degrees in different engineering disciplines. A Bachelor of Science (BS) Chemical Engineering program will create a highly trained workforce to meet existing and future needs in Alaska.

UAF already offers many of the courses necessary for an accredited ChE program. However, additional funding is needed to develop and offer the remaining courses and to have sufficient teaching faculty to meet anticipated enrollment growth of 120 students annually. State funding, in conjunction with private match and tuition funds, will support three full-time, tenure-track, chemical engineering faculty, and additional part-time faculty and administrative support. These faculty will provide instruction and advising, and will work closely with employers of the graduates to ensure that the program is meeting their needs. These faculty will also secure external funding for research projects relevant to industry needs that will provide experiential learning opportunities for students.

Tribal & Community College Partnerships

(GF \$200.0)

This request supports planning and development for College of Rural & Community Development (CRCD) community campus partnerships with new and existing tribal colleges in Alaska. Tribal colleges present a unique opportunity for rural campuses to partner with tribal governments and institutions to expand academic and administrative capacity, increase student completion rates, and help sustain delivery of post-secondary education throughout Alaska. The American Indian College Fund reports that 86 percent of Tribal College and University (TCU) students complete their chosen program of study. This funding will support initial planning and development of at least one new tribal college in Alaska and assess expanded partnership with Alaska's only current tribal college, Iisagvik. Accredited Tribal Colleges have access to dedicated federal funding unavailable to the UA system, which will support higher education access and affordability throughout Alaska.

Expanding Teacher Education throughout Alaska*

(GF \$125.0)

This request will support development of an Associate of Arts (AA) in Education to be administered through rural campuses with seamless transfer of graduates into any one of the three UA schools of education. A program coordinator will work closely with all three universities in the UA System and Iisagvik College, schools of education and rural campuses, to strengthen pathways into an education degree with concentrations in early childhood education, elementary, secondary and special education. The coordinator will conduct planning, coordination and logistics, as well as participation in development of the AA in Education. This position meets the desire of the UA Board of Regents for stronger collaboration among schools and colleges with similar degrees while addressing Shaping Alaska's Future themes focused on retaining Alaska-educated teachers, especially in rural Alaska.

Research & Development to Sustain Alaska's Economic Growth

Understanding the Impact of Ocean Conditions on Commercial Fisheries

(GF \$227.0, NGF \$65.0, Total \$292.0)

This is an extension of the ocean acidification capital research funding received in FY13 for assessing the impact on Alaska's fisheries. This request provides core operating support. Climate change and ocean acidification are especially likely to impact Alaska's waters and have considerable potential to affect the State's marine resources, both those harvested commercially and those used for subsistence. UAF needs faculty members with expertise in these critical areas of research who are also committed to education of the next generations of resource managers and marine scientists. UAF's School of Fisheries and Ocean Sciences (SFOS) is the sole State entity conducting research and disseminating knowledge through its academic program and public service.

Energy Partnerships for Alaska's Future (ACEP)

(GF \$250.0, NGF \$2,000.0, Total \$2,250.0)

This program builds on the Alaska Center for Energy and Power's (ACEP) existing collaboration with Alaska's energy industry to leverage the State's first-mover advantage in the global microgrid space, which is forecast to expand to \$40 billion per year by 2020. Alaska is considered a global leader in this technology field with 12 percent of the world's diesel-renewable hybrid microgrids. This presents a significant opportunity to develop new market opportunities for Alaska expertise and create jobs and revenue for Alaska-based organizations.

This funding will be used to develop tools and strategies in conjunction with Alaska's energy sector businesses to market Alaska expertise globally, expand the Alaska Microgrid Commercialization Center as a partnership between UA and private industry to accelerate Alaska innovation in this area. This will help organize a university-style United Nations microgrid training program that expands global awareness of Alaska's intellectual and business resources and establishes relationships with future decision-makers across the globe. Non-state funding for this program includes a combination of private and federal (US Economic Development Administration and Department of Energy) funds. One position will be hired to support this program.

Develop Economically Viable Crops with Alaska's Farmers in the Mat-Su Region

(GF \$165.0, NGF \$100.0, Total \$265.0)

Peonies and rhodiola, a high-value medicinal plant, show great promise and income potential for Alaska's farmers. The value per acre of cut flower peonies is estimated to be \$50-\$100 thousand while rhodiola has the potential to net a farmer \$25-\$40 thousand per acre. This request is for funding for a scientist who will work to develop and share information on growing, harvesting, and initial processing of specialty crops with farmers in Alaska and with University students. The position will be located at the Palmer Farm, as that UAF location is in the most active agricultural area of the state, but the individual will assist farmers in other areas as well. The scientist will develop an in-depth research program on specialty crops for Alaska and will secure both Federal and industry funding to help support the research.

UAF FY17 Capital Request:

Facilities Infrastructure, Arctic Research & Academic Technology

August 2015

CAPITAL CONSTRUCTION REQUESTS	State Appropriation	Receipt Authority	Total
Renewal & Renovation, Code, ADA (UAF proportion of \$100M UA request)	62,500.0	-	62,500.0
* R&R, Code, ADA Total	\$ 62,500.0	\$ -	\$ 62,500.0
New Construction			
Engineering Facility Completion (incl. ACEP Office infill receipt authority)	34,800.0	5,000.0	39,800.0
New Construction Total	\$ 34,800.0	\$ 5,000.0	\$ 39,800.0
Land, Property, and Facilities Acquisition/Realignment			
Northwest Campus Realignment	380.0	-	380.0
Land, Property, and Facilities Acquisition Total	\$ 380.0	\$ -	\$ 380.0
CAPITAL RESEARCH & CULTURAL PRESERVATION	State Appropriation	Receipt Authority	Total
Leading Alaska's Arctic Agenda, Enhancing Alaska's Economy & Cultural Preservation			
Rapid Warming Development: Earthquake & Tsunami Safety (Earthscape)	5,000.0	8,500.0	13,500.0
Critical Mineral Resources Research Center	2,000.0	2,000.0	4,000.0
Revitalizing Alaska Native Languages (RANL)	500.0	500.0	1,000.0
Leading Alaska's Arctic Agenda and Enhancing Alaska's Economy Total	\$ 7,500.0	\$ 11,000.0	\$ 18,500.0
ACADEMIC EQUIPMENT & TECHNOLOGY	State Appropriation	Receipt Authority	Total
Classroom Instructional & e-Learning Technology	2,000.0	-	2,000.00
Academic Equipment & Technology Total	\$ 2,000.0	\$ -	\$ 2,000.0

UAF FY17 Capital Budget Request Narratives

RENEWAL & RENOVATION (R&R), CODE, ADA*

(GF \$62,500.0)

UAF's R&R request represents a proportional share of the expected \$100.0 million UA system R&R request. The list of items below represents several high priority R&R, Code and ADA items and an estimated amount for allocation in FY17. These items are a small fraction of all UAF R&R and deferred maintenance (DM) needs. Facility events may require reprioritizing and/or increasing or decreasing specific projects and allocation amounts based on those circumstances.

FAIRBANKS CAMPUS

Fairbanks Campus Main Waste Line Repairs

FY17 (GF: \$2,870.0, NGF: \$0.0, Total: \$2,870.0)

FY18-FY26 (GF: \$7,740.0, NGF: \$0.0, Total: \$7,740.0)

Much of the sanitary and storm sewer main piping on campus is original wood stave or clay piping dating back nearly 60 years. These mains, though not at full capacity, have far exceeded their useable life and are failing. Campus growth and an ever-changing regulatory environment require the modification and upgrade of the waste water handling infrastructure. UAF has used State funding and UAF bonds to implement work identified in the 2006 Campus Wide Sewer Assessment, replacing waste lines in order of priority. The repairs are approximately 75 percent complete. The requested funding will replace additional waste line main piping with new modern materials with a life that exceeds 60 years.

Fairbanks Main Campus Wide Roof Replacement

FY17 (GF: \$4,500.0, NGF: \$0.0, Total: \$4,500.0)

FY18-FY26 (GF: \$9,000.0, NGF: \$0.0, Total: \$9,000.0)

UAF has many large campus structures that still have original roof systems. As buildings on campus age and do not receive adequate R&R funding, roofing system repairs only offer a band-aid solution to a long-term problem. UAF has expended 75 percent of Roof Replacement funding received to date, which is 21 percent of the total request through FY26.

Approximately 25 percent of campus roofs have been replaced using DM funding over the last 10 years. Funding is required to continue this multi-year project to replace roofs that have surpassed their useable life and are at risk of complete failure.

Critical Electrical Distribution

FY17 (GF: \$4,000.0, NGF: \$0.0, Total: \$4,000.0)

FY18-FY26 (GF: \$2,370.0, NGF: \$0.0, Total: \$2,370.0)

The existing electrical distribution system at UAF is nearly 50 years old. Upgrading the distribution system (including antiquated switchboards, code violations, old cabling and transformers) on the UAF campus has been a top priority to ensure campus power is safe and reliable. Funding for this project began in 2009. Since then 85 percent of the campus electrical system has been upgraded, utilizing 99.7 percent of the funds received to date. This funding request would complete the upgrade and allow the power distribution system to hook up safely to the new power plant when it is completed.

ADA Compliance Campus Wide: Elevators, Ramps & Restrooms

FY17 (GF: \$1,500.0, NGF: \$0.0, Total: \$1,500.0)

FY18-FY26 (GF: \$5,500.0, NGF: \$0.0, Total: \$5,500.0)

The Campus Wide ADA Compliance project is an on-going effort to bring the UAF Fairbanks campus and associated community and research campuses into compliance with ADA guidelines. This project includes accessibility improvements such as renovations to restrooms, improvements to accessibility routes both inside and outside buildings, replacing drinking fountains, upgrading elevators, and modifying stairwell handrails. With funding received to date, code compliant restrooms have been created in 95 percent of UAF buildings, and work to upgrade interior and exterior ramps has been progressing. Over the last eight years, an average of \$330,000 has been spent on ADA compliance work annually. Future work will address additional ADA compliance issues, including installing elevators in buildings without them.

Elevator/Alarms Scheduled Upgrading & Replacement

FY17 (GF: \$1,000.0, NGF: \$0.0, Total: \$1,000.0)

FY18-FY26 (GF: \$4,500.0, NGF: \$0.0, Total: \$4,500.0)

UAF Facilities Services manages the operation and maintenance for a fleet of more than 50 elevators and lifts with an average age of over 25 years. With the help of an FY01 audit, 28 elevators were identified as needing modernization upgrades. To date, approximately 70 percent of the identified elevators have been upgraded using DM funding. This request represents the latest installment of multi-year modernization plan and will address ADA, code, and deferred maintenance improvements in the campus elevator systems. Also included in this scope of work is routine and deferred maintenance on the many fire alarm systems in UAF facilities.

Fairbanks Campus Building Interior & Systems Renewal

FY17 (GF: \$1,500.0, NGF: \$0.0, Total: \$1,500.0)

FY18-FY26 (GF: \$4,500.0, NGF: \$0.0, Total: \$4,500.0)

This project will focus on critically needed existing building interiors and systems renewal. Particular emphasis will be on instructional, research and resident life spaces.

Campus Infrastructure

FY17 (GF: \$1,500.0, NGF: \$0.0, Total: \$1,500.0)

FY18-FY26 (GF: \$5,950.0, NGF: \$0.0, Total: \$5,950.0)

The UAF Fairbanks campus is serviced by infrastructure that was constructed up to 60 years ago when the student population and vehicle traffic were only a fraction of what they are today.

In addition to necessary communications infrastructure improvements (such as the Voice over Internet Protocol (VoIP) project which is 90 percent completed), UAF Fairbanks Campus roads and building access are in major need of renewal and renovation. Unlike the state, UAF does not receive federal maintenance funding per mile of road. UAF also does not receive funding for projects that address air quality improvements such as bus pullouts and bike paths.

Typical projects include multiple sidewalk, curb, gutter and ramp improvements, exterior lighting systems and safety fencing at Sustainable Village Housing, the VoIP communication infrastructure upgrade, and future completion of the northern link of Tanana Loop. The

project will also create safe and attractive pedestrian walkways and resurfacing of existing roads and renovation of sidewalks to maintain ADA compliance.

West Ridge Facilities Deferred Maintenance & Revitalization

FY17 (GF: \$10,000.0, NGF: \$0.0, Total: \$10,000.0)

FY18-FY26 (GF: \$241,000.0, NGF: \$0.0, Total: \$241,000.0)

The majority of the facilities located on UAF's West Ridge were built in the late 1960s and early 1970s. Irvings 1 and 2, Elvey, O'Neill, and Arctic Health Research Building serve multiple research and academic units on the Fairbanks Campus. The facilities house major academic programs for fisheries, biology, wildlife, physics, chemistry, agriculture and natural resource management. Elvey, home to the UAF Geophysical Institute, is a major center for many state emergency preparedness programs including the Alaska Earthquake information Center and the Alaska Volcano Observatory. The Arctic Health Building is home to several research programs that directly affect the health and welfare of thousands of Alaskans including the Center for Alaska Native Health Research and the School of Natural Resources and Agricultural Sciences. The Irving 1 facility is the home of the Institute of Arctic Biology and the Department of Biology and Wildlife. Hundreds of undergraduate, graduate, and master degree students learn, research, and teach in the building every day. The research intensive Irving 2 facility serves the Institute of Marine Sciences and School of Fisheries.

These facilities, which represent nearly 500,000 gross square feet of space, are the key component to UAF's competitive edge in research relating to the people and places of the Arctic regions. Research performed in the building represents over 50 percent of the total research revenue for the campus. Academic programs represented on West Ridge also affect over 1500 undergraduates and graduates seeking a degree in a program offered on West Ridge.

The FY17 West Ridge DM funding will continue the progress of a major renewal on West Ridge, systematically working through the deferred renewal plan. Work will include the design of renovations in the Elvey building which include replacement of the failed exterior curtain wall, replacement of major mechanical and electrical equipment, and improving energy use. Other small projects from the FY15 and FY16 plan will also be completed including demolition and relocation of a large animal facility, consolidation of multiple library stacks and subsequent space re-purposing, and corrections to several failed foundations on existing facilities.

Patty Center Revitalization

FY17 (GF: \$3,000.0, NGF: \$0.0, Total: \$3,000.0)

FY18-FY26 (GF: \$27,000.0, NGF: \$0.0, Total: \$27,000.0)

Constructed in 1963 to replace an existing 40-year old gym, the Patty Center now houses sports and recreational space for five NCAA Division II, and two NCAA Division I sports. This includes both men's and women's teams that are a vital part of UAF campus life and the Fairbanks community. In 2014 UAF completed a comprehensive facilities revitalization plan for the Patty Center complex. To date DM funding has been spent on minimal ADA restroom and seating upgrades, and gym flooring preservation. 79 percent of the current funding has been spent and 3 percent of the total 10-year funding request has been received. The requested funding will begin to implement the facilities plan, correcting an abundant list of code citations, upgrading the center to meet basic competition standards, and extending the life of the 50-year-old facility.

UAF COMMUNITY CAMPUSES

Kuskokwim Campus Facility Critical Deferred & Voc-Tech Renewal Phase 2

FY17 (GF: \$1,630.0 NGF: \$0.0, Total: \$1,630.0)

FY18-FY26 (GF: \$13,000.0, NGF: \$0.0, Total: \$13,000.0)

Current maintenance and repair funding levels are not sufficient to meet the critical maintenance needs at the rural campuses. Funding will allow for continued major renovations and code upgrades to over 50,000 square feet of space. Work generally includes new architectural finishes on the inside and outside, new electrical distribution, corrected plumbing systems, and installation of code compliant ventilations systems.

NEW CONSTRUCTION

Engineering Facility Completion (including ACEP office infill)

(GF \$34,800.0, NGF \$5,000.0, Total \$39,800.0)

This request represents the amount necessary to complete the new UAF engineering facility. The UAF campus is the home of the College of Engineering and Mines (CEM) and the Institute of Northern Engineering (INE). CEM and INE are the primary centers for engineering education and research in Alaska today. In Fall of 2014, UAF had 68 percent of the undergraduate engineering students, above the pre-major level, enrolled in the UA system. CEM and INE additionally generated over \$11 million in grant-funded research in FY15.

The Duckering Building on the Fairbanks campus is the main facility that supports the engineering programs on the UAF campus. The Duckering building as documented by the UA Engineering Plan 2010 is too small and the facilities cannot fully support the needs of modern engineering education and research.

The state provided incremental funding for this project in FY11 through FY15 leaving an unfunded balance from the original budget of \$28.3 million dollars. Delayed funding has caused a bifurcation in the scope of work that does not follow the normal schedule of construction activities for such a building. Delayed funding also means the opening of the building is delayed until at least spring semester 2018. Because the earliest possible completion date is 30 months beyond the original date, the FY17 request is \$34.8 million dollars; the increase will cover inflation in material and labor costs, mobilization of contractors and a portion of the extended general conditions cost.

This project to upgrade UAF's engineering facilities will support the Fairbanks Campus in its efforts to graduate more engineering students. The construction of a new UAF Engineering Facility will provide an additional 120,000 gross square feet (gsf) located between the Duckering Building and the Bunnell Building. The new UAF Engineering Facility design provides an efficient solution to the space and functional deficits recognized in the existing Duckering Building. The new facility creates an environment that enhances interaction among the students, professors and researchers. The modern building improves indoor environment and building systems and student success and retention are enhanced through a visible and interactive learning environment (engineering on display), day lighting of common, learning, and research spaces, improved air quality, student interaction and learning spaces in common areas and integrated engineering research and instruction.

UAF will complete the shelled space on the fourth floor of the UAF Engineering Facility to provide research labs, offices, and support space for the Alaska Center for Energy and Power (ACEP). The space will also have collaboration areas, allowing for a more integrated research approach with external partners. The completion of this project, in combination with the multi-bay research building constructed in 2011-2012, ACEP will have the physical space necessary to pursue its mission. UAF plans to complete the space on the fourth floor with private funding; UAF is seeking receipt authority for this purpose.

LAND, PROPERTY, AND FACILITIES ACQUISITION /REALIGNMENT

Northwest Campus Realignment

(GF \$380.0)

The Northwest Campus is located on the east end of Nome on the edge of the main business district and within a hundred feet of the Bering Sea. The campus is surrounded by residential homes, small and medium sized apartments, and is adjacent to a thriving hotel. The campus property consists of a cluster of contiguous lots of varying sizes and shapes within one city block. Some of the lots comprising campus are leased from the city of Nome and some of them are owned by the university. UAF and UA Lands are currently in negotiations with the City to purchase the leased lots. The hotel adjacent to the campus has indicated that if UAF is successful in purchasing its leased lots, the hotel would like to purchase from UAF the lot adjacent to its current property. The Northwest Campus Master Plan approved by the Board of Regents in 2013 noted that if this lot is sold to the hotel, one building on the lot could be demolished and one building, the Seppala Building, would ideally be relocated to another portion of campus closer to the other classroom buildings. UAF has been awarded a 5-year federal Title III grant which will assist in meeting some of the campus renovation needs. This grant can only be used to renovate facilities and may not fund the building move. Relocation of the Seppala Building must be complete prior to conducting renovations on it. This request is for funds to relocate the Seppala Building, and to complete other campus realignment tasks as envisioned in the master plan.

LEADING ALASKA'S ARCTIC AGENDA: ENHANCING ALASKA'S ECONOMIC COMPETITIVENESS, SAFETY & CULTURAL PRESERVATION

(GF \$7,500.0, NGF \$11,000.0, Total \$18,500.0)

Rapid Warning Development: Earthquake & Tsunami Safety (Earthscope)

FY17 (GF: \$5,000.0, NGF: \$8,500.0, Total: \$13,500.0)

A magnitude five or larger earthquake occurs each week in Alaska. From Southeast to the North Slope to the western Aleutians, earthquakes rattle most mines, dams, pipelines, ports, power plants, schools and communities each year. The Federal Emergency Management Agency (FEMA) estimates Alaska's annualized earthquake loss at more than \$50 million per year.

This initiative allows industry and communities to continue benefiting from the \$40 million Federal investment in Alaska occurring under the EarthScope USArray program. Between now and 2019, this program is operating an unprecedented network of 260 seismic sensors in a grid across the state. Without state support, the sensors will be removed at the end of the project in 2019 and the benefits of comprehensive monitoring will cease. With state support, a critical portion of the sensors will remain in place and the data flow will continue. Data from the sensors can be leveraged by the Alaska Earthquake Center to track the occurrence of

earthquakes with exceptional accuracy and in places where monitoring has never been possible.

This is a one-time opportunity to provide comprehensive earthquake assessment with an effective cost share of 10-to-1 because of the National Science Foundation's upfront investment to install the equipment. An investment of \$2 million provides the deliverables during the lifespan of the project. The remaining \$3 million investment allows UAF to buy out the in-place instrumentation at a fraction of true cost. Deliverables to the state include:

Earthquake tracking in all parts of Alaska. Prior to the EarthScope project, earthquakes could not be reliably measured across vast swaths of the state. Without this, infrastructure and industry developments lack meaningful assessment of earthquake hazards. When these hazards are underestimated, facilities can be saddled with costly retrofits. When hazards are overestimated, projects are needlessly expensive. This initiative will provide earthquake tracking in all parts of the state.

Statewide database of likely earthquake scenarios. Using the record of earthquakes provided by the sensors, the Alaska Earthquake Center will produce a statewide database of the most likely scenarios for earthquakes. Users will be able to query any region in the state to obtain estimates of the ground shaking from potential earthquakes. The project will publish maps of ground shaking for all known earthquake hazards in Alaska.

Rapid notification to critical infrastructure. Following significant earthquakes, the final link of this project would provide measurements of ground shaking to the operators of major facilities. This information can be compared with engineering plans to rapidly determine which design specifications may have been exceeded by the earthquake, and which parts of the system remain safe. This information would be used by mines, ports, oil platforms, pipelines, hospitals, as well as bridge and building operators.

This project would benefit every person, in all parts of Alaska. These three products are viable, only now, because of the data afforded by the EarthScope USArray stations.

Critical Mineral Resources Research Center

(GF \$2,000.0, NGF \$2,000.0, Total \$4,000.0)

While well-known for its oil fields, Alaska also holds mineral resource wealth. In addition to more familiar resources such as gold, zinc, silver, copper and coal, Alaska has critical minerals known as rare earth minerals. The rare earths are a relatively abundant group of 17 elements whose unique properties are used in a wide variety of applications. The financial success of efforts to mine for these rare earth minerals depends a great deal on the proportion of the mineral available in mined rock that is recovered. Higher recovery rates make mining more profitable, leading to new deposits being developed and increased sustainability of currently mined locations. Using findings from recent UAF research on mineral recovery, UAF researchers demonstrated that increased recovery rates are possible by improving rare earth recoveries at the Bokan deposit in southeast Alaska.

UAF has the core expertise to enhance the understanding of the link between geology, mineral recovery rates from ore, the downstream effects, and environmental impacts. However, UAF researchers do not currently have all the tools necessary to maximize this research (and subsequently allow mineral resource extraction to be maximized). Funding is requested for

laboratory equipment, lab set-up expenditures, and to engage/seed an investment in research staff.

It is expected that there is sufficient demand to justify the increased capacity this investment would make possible. Two potential sources of demand are exploring the impacts of arctic mining and identifying minerals from conflict zones. Given the current emphasis on arctic resources, it is very likely there will be demand to better understand the impacts of mining in the arctic.

U.S. companies are legally required to certify that metals they use in production do not come from conflict regions. Alaska has a long history of identifying sources of gold, which UAF may leverage for access to this field of metal certification. If successful, the research on mineral source identification could result in the creation of a private company that markets the technological advances made at UAF. Both of these problems require an understanding of the link between geology and the downstream problem--be it source identification or environmental problems in a fragile arctic environment.

In summary, this capital request is being made to not only allow UAF to respond to Alaska's critical mineral needs, but to also exploit opportunities that require an understanding of the intersection between geology and mineral extraction.

Revitalizing Alaska Native Languages (RANL)

(GF \$500.0, NGF \$500.0, Total \$1,000.0)

Alaska's twenty Native languages, spoken nowhere else in the world, face a difficult battle for future survival and represent a unique cultural heritage for Alaska. The knowledge embedded in Alaska Native languages spans a broad spectrum of human experience, helping indigenous peoples to understand the changing environment and how to adapt to those changes. In 2012 the Alaska Legislature established the Alaska Native Language Preservation and Advisory Council (ANLPAC), and its first report issued in 2014 includes recommendations for statewide language revitalization efforts. Leaders of language revitalization initiatives across Alaska welcomed this formal recognition and acknowledgement of the long-standing need to increase support. This request follows the ANLPAC framework and will fund a conference focused on indigenous language revitalization to establish needs and plan future action. This effort will emphasize language immersion education by providing seed funding for planning "language nests" (pre-school programs), language immersion schools, in addition to funding a proposal process through which language communities can start specific projects. Additionally, this will allow the Alaska Native Language Center and the Alaska Native Language Archive at UAF to further organize and increase access to teaching materials and other existing resources to benefit regional language programs.

ACADEMIC TECHNOLOGY & EQUIPMENT

(GF \$2,000.0)

Classroom Instructional & eLearning Technology

(GF \$2,000.0)

This request will install and/or upgrade instructional technologies in 50 classrooms throughout the UAF campuses. Installations and upgrades will include presentation and distance delivery technologies, videoconferencing, lecture capture and mobility. In FY09 UAF academic usage of video conferencing was 5,454 hours, in FY15 UAF utilized 7,333 hours of academic video conferencing reflective of a 30 percent increase over six years. Video conferencing is proven

to be a highly effective instructional technology at UAF and facilitates learning and teaching throughout the state and in rural communities. The increase in demand has eclipsed the existing capacity of the classrooms equipped with current instructional technologies and video conferencing technology.

Technological innovation is an important aspect of teaching and learning in the 21st century. According to the International Journal on Integrating Technology in Education, today's students have spent their entire lives surrounded by digital technologies. Through their use of cellphones, smartphones, tablet computers and laptops, college students are arriving in higher education classrooms more technologically linked and socially connected than ever before. These portable technologies with online connectivity challenge educators to meet students in the technological world. As the demand for mobile technology and individualized learning propagates, a clear transformation in the use of technology must occur.

A key benefit of eLearning is that it can increase enrollment by increasing access and offering flexibility that reaches a broader range of students. Technology-enabled learning spans distance; in Alaska, investing in instructional technology is prudent. From "flipped" classrooms (a form of blended learning where students watch video lectures at home and work on assignments in class) to massive open online courses (MOOCs), eLearning is creating a notable transformation in higher education. As the paradigm shifts from traditional teaching methods to technology-enabled learning, it is essential that classrooms be equipped with the instructional technology that enables instructors to provide active, connected learning that improves student outcomes.

UAF educators routinely conference with numerous statewide locations. It is common for an instructor at UAF to teach students at UA extended campuses across the state as well as K-12 sites in Glennallen, the Lower Yukon School District, Bering Strait School District, Telehealth networks, and with students nationally as well as internationally, using video on their personal computers.

UAF photo by Todd Paris. 07/2015
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