

**STATEMENT OF THE AMERICAN INDIAN HIGHER EDUCATION CONSORTIUM
SUBMITTED TO THE U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT, AND RELATED AGENCIES ON THE
DEPARTMENT OF ENERGY – NATIONAL NUCLEAR SECURITY ADMINISTRATION**

May 7, 2021

REQUEST SUMMARY

On behalf of the nation's Tribal Colleges and Universities (TCUs) that collectively are the American Indian Higher Education Consortium (AIHEC), we thank you for this opportunity to share our recommendations regarding the Department of Energy (DOE), National Nuclear Security Administration's (NNSA) Minority Serving Institutions Partnership Program (MSIPP).

Department of Energy (DOE): National Nuclear Security Administration – Minority Serving Institutions' Partnership Program – Tribal Education Partnership Program

(NNSA-MSIPP-TEPP): *TCUs urge the Subcommittee to continue funding for the newly established Tribal Education Partnership Program, a TCU-specific sub-program within the NNSA-MSIP, at \$5,000,000 for FY2022.* With funding from NNSA-MSIPP, the TCU Advanced Manufacturing Network Initiative (TCU AMNI) was created with a pilot cohort of five TCUs in collaboration with AIHEC. Since 2015, each of the participating TCUs has established a basic advanced manufacturing facility that offers training and education programs with support from NNSA National Laboratory partners. TCUs are uniquely positioned to catalyze economic transformation in Indian Country, because they have the capacity to train a specialized workforce and develop critical research and development partnerships with NNSA National Laboratories as well as major national companies such as Boeing Company and Ford Motor Company.

The TCU AMNI program provides an important partnership model for the Department of Energy and the nation's TCUs. The program creates a career pipeline for American Indian and

Alaska Native (AI/AN) students, beginning with the development of technical skills required to operate advanced manufacturing systems, which are coming to dominate the global manufacturing sector. Students completing technical training at TCUs are also prepared to pursue engineering programs, which are in demand at all stages of manufacturing. The TCU AMNI program contributes to the growth of a well-trained Native workforce: technicians, engineers, designers, and entrepreneurs. Through this initiative, TCUs are in a strong position to help tribes develop advanced manufacturing enterprises, which, in turn, generate significant economic activity and create high-skilled jobs for their young people. These efforts will contribute to breaking the cycle of poverty that has plagued tribal communities for generations.

TCU efforts in advanced manufacturing have direct economic impacts on tribes and have even proven impactful in the field of public health. During the current coronavirus pandemic, the Bay Mills Indian Community Chairman asked Bay Mills Community College (BMCC) to produce personal protective equipment (PPE) for the tribally operated Bay Mills Health Center and nearby War Memorial Hospital in the Upper Peninsula of Michigan. BMCC collaborated with Lake Superior State University and the local school district to 3-D print face mask headgear using a design developed by BMCC. BMCC also 3-D printed venturi valves, a component of medical ventilators, which were also in short supply, for War Memorial Hospital. BMCC worked with the other four ANMI TCUs to produce 3-D printed PPEs and other needed medical equipment for their local tribal health services providers and the Indian Health Service.

MSIPP TCU Report Language Needed for Funding

TCU AMNI represents a model for a partnership between the DOE and the nation's 37 TCUs that can help address the need for a more diverse STEM workforce within the NNSA National Laboratory system while promoting economic growth in Tribal communities.

Historically, the competitive MSIPP grant program lacked distinct support for TCUs and Tribal communities. In the FY2020 DOE budget, \$5 million was explicitly provided for a separate TCU program; however, a program was not initially established. Instead, the funds were added to the competitively awarded MSIPP grant program broadly available to Historically Black College and Universities and other Minority Serving Institutions. In conducting the FY2020 MSIPP grant competition, NNSA did not include provisions specifically for TCUs, nor was an outreach strategy implemented to solicit TCU grant applications to ensure that TCUs would receive the \$5 million in Congressionally directed funding. Due to the lack of outreach by NNSA, few TCUs submitted proposals. After extensive feedback from AIHEC, NNSA released a new TCU-specific sub-grant program under MSIPP entitled: Tribal Education Partnership Program. While NNSA eventually took steps to administer Congressionally directed TCU funding, we respectfully request that report language and funding be included to ensure continuity in the newly established Tribal Education Partnership Program.

Success of the TCU Advanced Manufacturing Network Initiative

The TCU AMPI is creating very promising and exciting projects on five TCU campuses. Below are summaries from the five participating TCUs.

Navajo Technical University – Crownpoint, NM

The Center for Digital Technology at Navajo Technical University (NTU) in Crownpoint, NM has established an advanced manufacturing program with a state-of-the-art facility including metal 3-D printers, computer numerical control (CNC) machines and high-tech inspection, and validation instrumentation. Students at NTU are developing knowledge and skills in design engineering, manufacturing processes, and performance analysis. The Navajo Nation is making a significant investment in this program and has recruited major industry partners for

manufacturing contracts resulting in employment for NTU graduates. This program provides a model for how TCUs and Tribes can join the global manufacturing supply chain ecosystem, generate significant economic activity, and train students to join the technology and engineering workforce.

Bay Mills Community College – Brimley, MI

Bay Mills Community College (BMCC), located in the Upper Peninsula of Michigan, operates the Great Lakes Composites Institute, a wholly owned subsidiary of the college that functions as a Tier II/Tier III manufacturing supplier. It has established a technical leadership position as a supplier of composite materials and products focusing on thermoplastic fiber reinforced polymeric innovations and next-generation thermoplastic fiber-reinforced products. Industry partners include the Army Tank Research, Development, and Engineering Center (TARDEC), Ford Motor Company, and the Chrysler Corporation.

Cankdeska Cikana Community College – Fort Totten, ND

Cankdeska Cikana Community College (CCCC), located in rural North Dakota, has developed an advanced manufacturing certificate program that builds on an existing engineering program partnership with North Dakota State University. CCCC is partnering with the University Centers for Atmospheric Research (UCAR) on the design of environmental monitoring systems specifically to support local Tribal resource management requirements.

Salish Kootenai College – Pablo, MT

Salish Kootenai College (SKC) has established an Advanced Manufacturing Prototyping Lab (AMPL) used for both lab courses and open hours for students interested in exploring additive manufacturing projects, following the FabLab model. SKC faculty are implementing an underwater drone project, similar to that at CCCC, focusing on drones capable of carrying

instrumentation needed to monitor hydrology, biology, and lake sedimentology of Flathead Lake, the largest freshwater lake west of the Mississippi River.

Turtle Mountain Community College – Belcourt, ND

Turtle Mountain Community College (TMCC), located 10 miles from the Canada-U.S. border, is expanding their partnership with North Dakota State University. The partnership was developed through a collaborative engineering program in which students complete their first two years of engineering at TMCC and continue on to complete their degree at NDSU. The engineering program integrates the college's advanced manufacturing program, providing students the opportunity to carry out engineering design projects and research using the college's advanced manufacturing facility.

CONCLUSION

Struggling economies are endemic in Indian Country. We ask that Congress join us in bringing Tribal nations into the evolving global manufacturing community; transforming Tribal economies while addressing national energy technology challenges. TCUs provide quality higher education opportunities to thousands of AI/ANs and other rural residents, as well as essential community programs and services to those who might otherwise not have access to such possibilities. The modest federal investment in TCUs have paid great dividends in terms of employment, education, and economic development. We greatly appreciate your previous and your continued support of the nation's Tribal Colleges and Universities and your careful consideration of our FY2022 appropriations requests.