



**STATEMENT OF DR. ELMER GUY**  
**PRESIDENT, NAVAJO TECHNICAL UNIVERSITY**  
**ON BEHALF OF THE AMERICAN INDIAN HIGHER EDUCATION CONSORTIUM**  
**PREPARED FOR THE U.S. HOUSE OF REPRESENTATIVES**  
**COMMITTEE ON APPROPRIATIONS**  
**SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT, AND RELATED AGENCIES**  
**DEPARTMENT OF ENERGY – NATIONAL NUCLEAR SECURITY ADMINISTRATION**

May 3, 2017

**I. REQUEST SUMMARY**

On behalf of the nation’s Tribal Colleges and Universities (TCUs) that collectively are the American Indian Higher Education Consortium (AIHEC), thank you for this opportunity to present the TCUs’ Fiscal Year 2018 (FY 2018) appropriations request with regard to the Department of Energy (DoE), National Nuclear Security Administration (NNSA) Minority Serving Institutions Partnership Program (MSIPP). We thank the Subcommittee for your longstanding support for the Minority Serving Institution’s Partnership Program, which is operated by the National Nuclear Security Administration; and we respectfully request \$5 million in the FY 2018 Energy and Water Development Appropriations bill to continue and expand the new **Tribal College Initiative**, which is part of the DoE-NNSA MSI Partnership Program.

The Tribal College initiative is designed to support a primary focus of the MSIPP, which includes advancing the TCUs’ capacity for engaging in collaborative research projects throughout the NNSA complex, and helping to meet the nation’s STEM workforce need. Our Initiative is small – our institutions first joined the MSI Partnership Consortia Program about two years ago. Yet already, it has had a big impact on our small institutions and the rural tribal communities we serve.

**II. NNSA-MSIPP TRIBAL COLLEGES AND UNIVERSITIES INITIATIVE**

The Tribal Colleges and Universities Initiative is designed to educate, train, and develop Native researchers, engineers, and technicians to expand and diversify the nation’s STEM workforce in important technology growth areas. When the program is fully implemented, projects will focus on capacity building at TCUs in these growth areas and on facilitating research partnerships with NNSA’s National Laboratories and their industry partners. In addition to furthering the science mission of the U.S. Department of Energy, activities supported through this program will encourage Native students to pursue science and technology careers resulting in a sustainable career pipeline for American Indian and Alaska Native students in science and technology fields that are emerging as key drivers of the U.S. and global economies and important to the nation’s security interests.

**III. JUSTIFICATIONS**

Since 1973, the American Indian Higher Education Consortium (AIHEC) has been the collective spirit and voice of the nation’s Tribal Colleges and Universities (TCUs), advocating on behalf of tribally or federally chartered institutions of higher education to help the TCUs achieve their collective mission of improving the lives of students through higher education and to moving American Indians/Alaska Natives toward self-sufficiency. Our vision statement - *Strengthening*

*sovereign nations through excellence in Tribal higher education* - illustrates our strong focus on Tribal Nation-building.

To achieve this vision, AIHEC continually seeks new avenues of support and new partners to grow the country's Native workforce and to create jobs in Indian Country. TCUs are the leaders in preparing American Indian/Alaska Native nurses, hundreds of teachers, and other professionals in high-demand fields, including agriculture and natural resources management, human services, IT technicians, and building tradesmen. However, training workers where opportunities for employment are extremely limited cannot address the entrenched poverty that plagues Indian communities.

Using the TCUs as the foundation, AIHEC is implementing a long-term systemic plan for transitioning Native communities from local economies that perpetuate the cycle of unemployment, dependency, and poverty to economies that are dynamic and innovation-driven, creating jobs and business opportunities. Working with new and emerging manufacturing technologies and methods, and with seed funding from the U.S. Department of Energy's National Nuclear Security Administration (NNSA), we have established an advanced manufacturing program involving a pilot cohort of five TCUs. Each college has established a basic advanced manufacturing facility, is involved in developing a joint training and education program, and has identified research and development projects involving energy system and related technologies that they are pursuing with private sector and federal agency partners. This program will prepare a well-trained Native workforce in advanced manufacturing and create economic and employment opportunities within Tribal communities through design and manufacture of products that are responsive to needs and opportunities within these targeted technology areas. The project envisions bringing the "maker movement" to Indian Country by providing American Indian/Alaska Native young people with technical skills, as well as the opportunity to use those skills to respond to emerging opportunities in key technology areas. We envision Tribes, Tribal Colleges, and investment partners working together to establish a manufacturing sector in Indian Country involving products and technologies that are designed, developed, and made by Native people. While the \$5 million requested from the DOE will focus on DOE STEM strategic goals more broadly, it will be critical to this initiative, ensuring that the participating Tribal Colleges have the facilities, dedicated personnel, and National Laboratory partners necessary for meeting both their training and education and research and development goals. Most important, these funds will help ensure that the TCUs develop the capacity to generate business activity that creates revenue necessary to grow and expand the program, and create jobs.

The TCU Initiative is helping to further some very promising and exciting projects in the area of advanced manufacturing. For example, the Center for Digital Technology at my own institution, Navajo Technical University (NTU) in Crownpoint, NM has established an Advanced Manufacturing program, funded in part by the Department of Energy and the National Science Foundation. The program has put together a state-of-the-art facility including 3D printers, computer numerical control (CNC) machines and high tech inspection, and validation instrumentation that allow students to acquire knowledge and skills in design engineering, manufacturing processes and performance analysis. Through this program, NTU is poised to become a leader both in advanced manufacturing and the promotion of innovation and competitiveness through its own center for inspection standards and calibration. The Navajo

Nation plans to make a significant investment in this program, and is helping to recruit industry partners for research and development, and manufacturing projects involving both NTU faculty and students. This program provides a model for how TCUs and Tribes can join the global manufacturing sector, generate significant economic activity, and train students to join the technology and engineering workforce.

A second example is Bay Mills Community College (BMCC) in the Upper Peninsula of Michigan that operates the Great Lakes Composite 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 Department of Defense military tank command (TARDEC), Ford Motor Company, and the Chrysler Corporation. They are also working with Sandia National Laboratories in exploring the use of composite materials to improve flywheel technology for energy storage.

Both NTU and BMCC are providing leadership and models for how TCUs can successfully participate in an advanced technology-supported economic growth area while providing students hands-on training and career opportunities.

#### **IV. ABOUT TRIBAL COLLEGES: SOUND FEDERAL INVESTMENTS.**

Tribal Colleges and Universities are an essential component of American Indian/Alaska Native (AI/AN) education. Currently, 37 TCUs operate more than 75 campuses and sites in 16 states, within whose geographic boundaries 80 percent of all American Indian reservations and federal Indian trust land lie. They serve students from well over 250 federally recognized tribes, more than 85 percent of whom receive federal financial aid – Pell Grants. In total, the TCUs annually serve over 160,000 AI/ANs through a wide variety of academic and community-based programs. TCUs are public institutions accredited by independent, regional accreditation agencies and, like all institutions of higher education in the U.S., must periodically undergo stringent performance reviews to retain their accreditation status. Each TCU is committed to improving the lives of its students through higher education and to moving AI/ANs toward self-sufficiency. To do this, TCUs must fulfill additional roles within their respective reservation communities, functioning as community centers, libraries, tribal archives, career and business centers, economic development centers, public meeting places, and child and elder care centers.

In August 2015, an economic impact study on the TCUs, conducted by Economic Modeling Specialists International (EMSI), revealed that the known TCU alumni impact is \$2.3 billion, which supports 28,778 jobs in the nation. From a taxpayer's perspective, the study concluded that the total monetary benefits to taxpayers compared to their costs (equal to the federal funds the TCUs received during the analysis year) yields a 2.4 benefit-cost ratio. In other words, for every federal dollar invested in the TCUs, the taxpayers receive a cumulative value of \$2.40, over the course of students' working lives. The average annual rate of return is 6.2 percent, a solid rate of return that compares favorably with other long-term investments. On an individual basis, TCU students see an annual return of investment of 16.6 percent, and the vast majority of TCU-trained workers remains in Indian Country and contributes to the local economy. TCUs benefit taxpayers through increased tax receipts and reduced demand for federal social services; a win all-round.

## **V. APPROPRIATIONS LANGUAGE REQUEST FOR FY 2018**

We ask that the Subcommittee to include \$5 million to continue and expand the new **Tribal College Initiative**, which is part of the DoE-NNSA MSI Partnership Program, so that we might begin to realize the full potential of this program that is setting TCUs on a path to further the opportunities they can offer their students and reservation communities.

## **VI. 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. AIHEC Member institutions/Tribal Colleges and Universities provide quality higher education opportunities to many thousands of American Indians and Alaska Natives and other reservation residents, as well as essential community programs and services to those who might otherwise not have access to such possibilities. As noted earlier, the modest federal investment that has been made in TCUs has paid great dividends in terms of employment, education, and economic development. As outlined earlier, continuation and expansion of this investment through the Department of Energy/NNSA partnerships makes sound fiscal sense.

We greatly appreciate your past and your continued support of the nation's Tribal Colleges and Universities and your careful consideration of our FY 2018 appropriations requests.