**AIHEC – AISES – US Department of Energy**

**American Indian Research and Education Initiative**

**(AIREI) Opportunity Announcement**

**2011 – 2012**

The American Indian Higher Education Consortium (AIHEC) and the American Indian Science and Engineering Society (AISES) are soliciting proposals for tribal community-based energy research, technology transfer, economic development, and public education projects. These projects are intended to promote science education and research among American Indian college students and faculty at Tribal Colleges and Universities (TCUs) and mainstream higher education institutions while helping to address Tribal community energy priorities. Through the **2011 American Indian Research and Education Initiative (AIREI),** funding shall be used to support student and faculty for up to three years to carry out research and/or technology transfer projects impacting tribal lands. In addition, funds will support participation by each institution’s project team in a two-week training -- the AIREI Institute in Energy Science -- to be held at a U.S. Department of Energy National Laboratory.

**Project Overview**

Energy issues – forms of energy, sources of energy, and pathways to greater energy efficiency and conservation – are looming as major challenges worldwide. American Indian communities are uniquely situated in the matrix of energy production and energy use and efficiency. Tribal lands are often repositories of coal, oil, uranium and renewable energy resources fueling the U.S. economy. American Indian tribes have tremendous untapped energy potential in wind and solar resources, and multiple tribally sponsored entities and programs focus on renewable energy as a means of sustainable economic development. However, tribal lands are also home to the most underserved populations in terms of energy services in the United States. American Indians living on reservations pay some of the highest rates for fuel and electricity, and have the highest percentage of un-electrified and un-weatherized homes.

These issues create a significant need as well as opportunity for fostering the development of future American Indian leaders with the scientific and technological skill required to assist tribal communities in managing their lands and developing their energy resources. American Indian students enrolled in undergraduate programs today must acquire the education and skills they will need to enter careers in the rapidly growing energy industry. American Indian students need to be prepared to help make appropriate decisions about their community’s energy future now, as they pursue their higher education, and as they assume future leadership roles as scientists, managers and tribal leaders. The educational and research activities supported through the AIREI program will provide students the opportunity to contribute to their Tribal community’s efforts toward sustainable energy while augmenting their science training with energy-related content.

**The Application Process**

To be eligible to submit a full proposal, a faculty or staff member from an AISES-member college or university or a TCU must submit a 2011 AIREI Application and brief Letter of Inquiry (LOI) using the format

below. The LOI should include an introduction, brief overview of the applicant institutions (and partnering institution if one has been identified), brief description of the project concept, Tribal community that will be impacted, methodology, and expected outcomes. A joint proposal from a TCU and an AISES-member institution will be required for the full proposal.

2011 AIREI LOI should be submitted **as an MS Word or PDF file by e-mail to Al Kuslikis, AIHEC AIREI coordinator, at** **akuslikis@aihec.org** **by Friday, September 30th, 2011. Please do not mail hard copies.**

The AIREI Review Committee will review the LOIs and select projects that will be invited to submit a full proposal for formal consideration by the committee. AIHEC, AISES and National Laboratory staff will be available to provide further guidance regarding the submission of the full proposal.

Proposals for the **2011 American Indian Research and Education Initiative** must describe a one to three year project that addresses an energy-related issue at an American Indian tribal community. The size of project teams will likely be limited to two students attending a TCU and two AISES students at a mainstream college or university, and one faculty member from each institution. Once the awards are made, a co-investigator from a National Laboratory will be identified to work with each project team.

In addition to the National Laboratory co-investigator, student teams will also have the opportunity to collaborate with mentors from the National Laboratories, during the two-week AIREI Institute in Energy Science to be held in the summer. The Institute will be hosted by a National Laboratory, giving the project teams access to world class science research facilities that will be available to support them as they prepare to implement their projects.

Project proposals may be submitted for up to $70,000 for each year, ($35,000 per institution), or $210,000 for up to a three year period. Please see the Proposal Instructions below. The AIREI Review Committee urges the submission of proposals for projects with wide applicability across Indian Country.

If there are any questions regarding the proposal process, please contact: Al Kuslikis, AIHEC AIREI coordinator, at akuslikis@aihec.org or (703) 838-0400 x121 or Cara Thunder, AISES Program Director, by e-mail at cthunder@aises.org or (505) 765-1052.

**2011 American Indian Research and Education Initiative**

**Application Form**

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| **Institution Partner 1****INSTITUTION NAME****MAILING ADDRESS** **CITY STATE ZIP** **NAME of FACULTY or STAFF TITLE****PHONE EXT E-MAIL (Required)** **ALTERNATE CONTACT E-MAIL**  |
| **Institution Partner 2****INSTITUTION NAME****MAILING ADDRESS** **CITY STATE ZIP** **NAME of FACULTY or STAFF TITLE****PHONE EXT E-MAIL (Required)** **ALTERNATE CONTACT E-MAIL** |

**2011 American Indian Research and Education Initiative**

**Application (Page 2 of 2)**

**Project Title**

**Tribal Land or Tribal Community that is the focus of the Project**

**Summary of Proposal -** The summary should include an introduction, brief description of the project idea, and methodology. Limit up to 2 pages

**Proposal Goals -** Describe the research goals of your project, and the expected outcomes/benefits for the target tribe or community. Limit up to 2 pages.

**2011 AIREI Full Proposal Instructions**

**(Only accepted projects shall be invited to submit full proposals)**

1. **Project Overview**

The American Indian Higher Education Consortium (AIHEC) and the American Indian Science and Engineering Society (AISES) are working with the U.S. Department of Energy Office of Economic Impact and Diversity and the nation’s National Laboratories to promote science education and tribal community-based research among American Indian college students and faculty at Tribal Colleges and Universities (TCUs) and mainstream higher education institutions with significant enrollment of American Indian students and/or active AISES chapters, in close partnership with researchers at the National Laboratories.

1. **The AIREI Partners**

**AIHEC**

The American Indian Higher Education Consortium (AIHEC) is the organization of the nation’s 36 Tribal Colleges and Universities (TCUs) in 14 states in the U.S. and one institution in Canada. AIHEC is involved in a comprehensive effort to improve American Indian student achievement in STEM, help build the capacity of TCUs to develop and sustain high quality STEM education and research programs, and ensure that American Indians have the tools needed to succeed in the national STEM workforce.

**AISES**

For 30 years, AISES has helped Native Americans to successfully pursue advanced educational and employment goals. Founded in 1977 as a non-profit organization, AISES has played a crucial role in preparing Native Americans to realize their own capacity, providing opportunities for students and professionals to succeed in science, technology, engineering, and mathematics studies and careers.

1. **AIREI Goals**

The overarching purpose of the AIREI project is to foster the development of future American Indian scientists, engineers and leaders with the scientific and technological skills to assist Tribal communities (and the nation) in developing and managing energy resources.

**Goal 1:** Engage American Indian college students in relevant and exciting applied research engineering, and technology transfer projects conducted on Tribal lands.

**Goal 2:** Strengthen and enhance access by American Indian college students to energy-relevant STEM education programming.

**Goal 3:** Establish a community of energy practice involving faculty and students from TCUs and AISES member institutions, and DOE/National Laboratory research, engineering, and education personnel.

1. **Program Description**

*a. Awards*

The AIREI awards will be made directly to the faculty/student teams’ institutions. The awardee institutions will be responsible for ensuring that all financial, reporting, and other post-award requirements of AIHEC, AISES, and the Department of Energy Office of Economic Impact and Diversity are met, consistent with federal granting specifications outlined in Circular A-110 of the Office of Management and Budget. Awards can be from 1 to 3 years in duration.

***b. Project Components***

AIREI Institute in Energy Science: *Project development, education and training*

All of the teams will travel to a host National Laboratory where they will participate in an annual 2-week Institute. The Institute will provide special education and training activities designed to provide students with an introduction to research methods and energy science concepts relevant to the projects they will be undertaking.

 A primary goal during the Institute is for the project teams to interact with their National Laboratory mentors as they finalize their project plans. Participating institutions will be selected in large part based on the research or technology transfer project described in the proposal. Local community stakeholders (e.g. tribal agency representatives, community-based NGOs) will have been contacted in the process of developing the project idea. Working with their National Laboratory mentors, the teams will develop a more detailed project plan, with specific objectives that are to be achieved by the conclusion of the summer.

In addition to the Institute coursework and working with their project team members on their respective project plans, additional activities will include guest lectures by National Laboratory personnel, tours of research facilities, as well as required on-site health, safety, and computer usage training. Students will also receive instruction in preparing a scientific poster for display at the various forums discussed below.

*Community-based Projects*

Each team (with both TCU and AISES institution members) will spend up to 7 weeks working on-site in the community that provides the focus of the research project. Non-local students will be housed in the TCU dormitory or other appropriate local housing. A local project office/worksite will be identified and each team member assigned a duty station.

During the 7-weeks on-site, the teams will implement the project plans finalized with their mentors during the AIREI Energy Institute. Modifications to the plans will be ongoing, as required by contingencies impacting implementation. The National Laboratory mentors will conduct weekly conference calls with their teams to discuss progress and address issues as they emerge. At the conclusion of the project implementation period, each team will prepare a summary progress report, including a plan for continuation of activities through the coming academic year. These reports will be submitted to AIHEC, the DOE, the team mentors, and any tribal/community agency or organization with which the team interacted in implementing their project.

The project teams will be encouraged to continue their research activities throughout the academic year, and all participants will be asked to share information about their projects with other TCU and K-12 students in their local communities. We anticipate that on-site work on the community-based projects to begin during the summer 2012.

*c. Reporting*

Project teams will be required to submit a final report to AIHEC and the DOE AISES within 45 days of the expiration of their AIREI grant award. Financial and narrative report components are required.

1. **Applicant Eligibility**

Applications must include both an AIHEC member institution in good standing and a higher education institution with an active AISES chapter. Applications must include documentation of approval by the President, and/or Provost supporting release time for staff and faculty members involved in the project.

1. **Required Proposal Format**

Applicants will follow the outline below when submitting a proposal for consideration. The evaluation criteria for each section are described below; proposals will be scored on 100-point scale.

1. **Section I: Applicant Information Sheet**

Please provide an updated Application Form as used for the Letter of Interest.

1. **Section II: The Program Narrative**

The project narrative should contain the following sections:

1. **Project Rationale/Justification** [20 points]

The plan should include a description of the current energy-related issued to be addressed by the research, as well as the expected contribution to Energy Science and its practical application.

1. **Participant Objectives** [15 points]

The narrative should provide a description of learning outcomes for student and faculty participants associated with project activities.

1. **Research Plan** [35 points]

A clear description of the research to be conducted and the roles of the institutional partners. The goals should be well articulated and align with AIREI research mission. (Proposals involving existing projects, partnerships, and other indicators of a high likelihood of successful implementation will be factored in scoring under this criterion.) Include CVs of faculty investigators: PhD in a relevant discipline encouraged.

4. **Evaluation Plan** [15 points]

The evaluation plan should be adequate and reasonable for demonstrating overall success of project objectives, allowing for continuous feedback during the life of the project.

1. **Budget** [15 points]
2. Each selected team, consisting of a TCU and an AISES institution, will be eligible for $70,000 per year, for up to three years.
3. Include a line item budget summary and a brief budget narrative describing and justifying budget amounts. Allowable project expenses include staff time, supplies, travel to project meetings, etc.
4. While in-kind support is not required, if provided, please specify the nature of the support and amount.
5. **Section III:** Letters of commitment
	* + 1. Participating Institutions:

A letter of commitment from each participating institution confirming the institution’s intention to participate in the project, signed by an authorized representative

* + - 1. Tribal government/organizations:

A letter from a Tribal governmental or other community representative authorized to confirm the tribal government/community’s support of the project, and commitment to participate.

1. **Submission Deadline**

**A. Application Deadline:** Must be received electronically by **Friday, November 18th, 2011.**

1. The budget summary and narrative will be included as Exhibit A items.
2. Application packages received after the deadline date will not be considered.
3. **Proposal Submission**

**Send all proposal materials as a Microsoft Word or PDF file by e-mail to** akuslikis@aihec.org **by November 18th, 2011. Please do not mail hard copies.**

If you have any questions regarding the proposal process, please contact: **Al Kuslikis, AIHEC AIRIE coordinator at** **akuslikis@aihec.org** **or Cara Thunder, AISES Program Director at** **cthunder@aises.org****.**

**Award Notification:** December 15, 2011.