

Xavier University CERE Program

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1.0 BACKGROUND

After five decades of weapons research, testing and production activities, the U.S. Department of Energy (DOE) is faced with the tremendous challenge of managing massive radioactive wastes and contamination at its installations. The enormity of this challenge necessitates that DOE use the available expertise from national labs, universities and the private sector. The Consortium for Environmental Risk Evaluation (CERE) can help DOE develop and implement a strategy that would minimize risk posed to human health, the environment and people's quality of life. Xavier University, as part of CERE, can build upon its past work and use its existing partnerships with potentially impacted citizen groups and tribes to help bring about acceptable and equitable solutions. CERE can assist DOE and the Center for Risk Excellence to meaningfully engage states, tribes and stakeholders in a candid dialogue to determine acceptable endstates to bring about successful "closure" of its sites.

2.0 BRIEF CERE PROGRAM HISTORY

The Consortium for Environmental Risk Evaluation (CERE), a Tulane/Xavier partnership, was formed to provide support to the U.S. Department of Energy (DOE) for activities it conducts at its major installations. In 1994, CERE signed a cooperative agreement with DOE to assist the agency in developing and implementing a cost-effective and credible risk-based management plan for carrying out remediation activities at its installations. In 1998, a separate cooperative agreement was established between Xavier University of Louisiana and the DOE's Center for Risk Excellence.

3.0 CERE ACCOMPLISHMENTS

During the past year, Xavier University conducted activities focused primarily on risk communication between and among DOE, its various stakeholders and tribes. Building upon its past work in engaging tribes, African-Americans and Hispanic-Americans in the cleanup debate, Xavier completed the following activities.

- Conducted a "Tribal Radiological Emergency Preparedness" workshop in cooperation with the National Congress of American Indians. The workshop informed and trained tribal emergency responders on the basics of emergency response planning and actions. The workshop also included a brief discussion of tribal responsibilities and recommended planning activities that can potentially avoid liabilities in emergency situations. All attendees successfully finished the week-long workshop and received a hazardous materials emergency preparedness certification (issued by the state of Illinois).

- Conducted an "Information Technology and Geographic Information Systems (GIS)" workshop in cooperation with Northern Arizona University's Institute for Tribal Environmental Professionals. The workshop was attended by tribal environmental staff and teachers. At the conclusion of the workshop, the attendees created their own web page and learned of how teachers and professional staff can work together to provide youngsters with opportunities for "real world" applications of what they learn in the classroom. Additionally, the attendees were introduced to the use of GIS in the classroom and the workplace.
- Supported eight workshops conducted by the Citizens for Environmental Justice whose objectives were to inform African American and Hispanic American communities of activities at the SRS installation. Informed citizens were then able to participate in the public engagement activities at the site including Citizens Advisory Board (CAB) meetings.
- Updated the database containing concerns expressed by members of the Hanford publics. More than 1300 additional documents were collected during the year and entered into the database. Each document was coded according to same coding scheme used in the system, and abstracted. Currently, the database is being used to analyze the concerns of citizens on the Columbia River (Washington) over a ten-year period.
- Provided a preliminary evaluation of the "cultural risk" component of the "Groundwater/Vadose Zone Integration" Project. This component was further reviewed by the Intertribal Risk Assessment Committee.
- Participated in teleconferences on the "Tribal Oral Histories" project involving tribes impacted by DOE activities including the Seneca, Cochiti, Jemez, San Ildefonso, Santa Clara, Navajo, Shoshone Bannock, Nez Perce, Umatilla, and Yakama tribes.
- Provided training and technical support to tribal personnel on the video production of gathered oral histories. Over the past year, training and/or support was provided to the Shoshone Bannock, Umatilla, San Ildefonso and Jemez tribal staff.

The proposed work described in this proposal is aimed at continuing the efforts from previous years and will primarily focus on improving the communication of risk between and among tribes, various publics and DOE. Various stakeholders and tribes will be given assistance to use the best tools in understanding the extent and complexity of the cleanup problems. This will include efforts to build the capacity of

various communities to address risk issues on their own terms. In addition, the communication will involve a process in which the concerns, knowledge and wisdom of citizens will be brought to the attention of decisionmakers and the broader community.

4.0 SCOPE OF WORK

The work covered under this cooperative agreement with the Center for Risk Excellence is aimed at supporting the work of the Center in implementing more effective risk communication methodologies and fostering a better understanding of risk among the diverse publics. In carrying out its scope of work, Xavier University will utilize organizations with expertise and experience in the various aspects of the tasks.

- In support of DOE's American Indian Policy, Xavier University will implement activities to help build the capacity of tribes to address DOE issues. Informational and training workshops will be conducted on (1) Emergency Response Planning; (2) Use of Geographic Information Systems (GIS) Technology for Natural Resource Management; (3) Use of Video and Other Means for Effective Risk Communication; and (4) Successful Pipeline Programs for Tribal Colleges. These workshops will be coordinated with appropriate DOE offices and site personnel.
- In support of DOE's Environmental Justice policy, Xavier will conduct informational workshops to help African American communities around the SRS site understand the challenges of the agency's cleanup activities and help Black community leaders engage in a dialogue on cleanup options. These workshops will be coordinated with the DOE office at SRS.
- Xavier will conduct research to gather the opinions of the broader community on DOE's cleanup activities. Xavier has conducted survey research using both telephone survey and focus group methodologies to determine and understand public's view of site cleanup and future site options. In cooperation with EM 22 and Hanford and SRS DOE Public Relations Offices, Xavier will conduct telephone opinion surveys with residents around SRS and Hanford.
- Xavier will conduct research to gather information on citizens' opinions regarding DOE's cleanup activities as expressed in public meetings, correspondences to state and federal offices, etc. Xavier will update its inventory of public concerns database to include the most recent comments made by members of the public. In cooperation with the Center for Risk Excellence, Xavier will post the database on the web to

allow scholars from universities, laboratories and others to access the data to collect information useful in guiding decisions and policy.

- Xavier will convene a tribal-specific conference on important stewardship and risk issues relevant to DOE's cleanup mission. Xavier will also sponsor work of the Intertribal Risk Assessment Committee and the Shoshone Bannock Tribes in devising a strategy for including cultural risk/impact in environmental risk assessment.
- Xavier will administer and manage its CERE Program in a cost-effective manner that ensures timely delivery of products. Xavier will participate in CRE Review Sessions and in other projects as requested by the Center for Risk Excellence.

4.1 Tribal Capacity Building

The Department of Energy's American Indian Policy states that "the Department will consult with tribal governments" and that it "will encourage Tribal governments and their members to participate fully in the national and regional dialogues concerning departmental programs and issues." Several tribes with which DOE needs to consult are "affected tribes" as defined by NEPA. In order for these and other tribes impacted by DOE activities to be meaningfully engaged, they must be equipped with relevant and timely information and tools to assist them in making their own decisions.

Xavier will implement activities to help build the capacity of tribes to address DOE issues. Workshops will be conducted on (1) Emergency Response Planning; (2) Use of GIS Technology for Natural Resource Management; (3) Use of Video and Other Means for Effective Risk Communication; and (4) Successful Pipeline Programs for Tribal Colleges. The choice of the topics for these workshops is based on prior experience and current need as described below.

An issue of significant concern to tribes is the transportation of nuclear and hazardous wastes across or near their reservation. Many tribal leaders have expressed the need to be informed on the appropriate actions dealing with hazardous material transportation accidents, the need to have an emergency response plan in place, and the need to be trained in hazardous materials emergency response.

When the National Congress of American Indians, in partnership with Xavier, announced a tribal-specific training on emergency response, the training workshop was oversubscribed and had to be limited to accommodate only 20 participants at the April training. Many more tribes have expressed the desire

to receive the training. At the Tribal Radiological Emergency Preparedness (TREP) Workshop held in Albuquerque, April 20-23, 1999, all participants successfully completed their training including passing a written examination. Each participant received 12 hours credit and a certificate for Hazardous Materials Training from the Illinois Fire Institute at the University of Illinois. The unique quality of TREP workshops is that they are designed to address tribal government regulatory, cultural and jurisdictional considerations relevant to transportation of hazardous waste. Tribal planning and guidance documents were developed specifically for TREP training. The workshop received outstanding reviews from the participants including a suggestion to bring the training to tribal council members to better educate them on the process of planning and responding to hazardous waste transportation emergencies.

Another area in which training is needed by most tribes is the use of new information technologies and geographic information systems (GIS) in natural resource planning and management. Despite widespread use of the Internet and World Wide Web for communication and information retrieval, tribes have generally lagged behind in its use. On August 9-13, 1999, Xavier University and the Institute for Tribal Professionals conducted a training workshop on Internet and GIS Technologies. Twenty participants were trained on the basics of web page design and creation, and each one was able to create and post his/her own web page at the conclusion of the week-long workshop. The second half of the workshop dealt with the use of GIS in the classroom and in tribal environmental offices for planning and decision making purposes. Both tribal teachers and environmental office staff were invited, and mechanisms for further collaboration were discussed during the workshop. The success of these collaborations will be tracked and reported. The model for this kind of collaborative relationship can be found at the Santa Fe Indian School and various Pueblo environmental offices. Students at the school are able to work on projects undertaken by the Pueblo staff, and conversely, the tribal environmental staff are able to use the talents and work of the students to assist them in their work. We will follow up on the workshop participants to see if any fruitful collaborations will result from the August workshop.

Tribes have expressed the need to continue to get technical support on their video projects related to the Tribal Oral Histories Project (formerly called "Closing the Circle" Project). Training conducted by Xavier University has resulted in a cadre of tribal staff skilled in the use and editing of video materials. Each of the ten tribes that have an existing cooperative agreement with DOE has purchased video equipment. There are now two central locations for editing video materials, one at the Umatilla reservation for the Northwest tribes and the other at the Jemez Pueblo for the Southwest tribes. Xavier University continues to provide advanced training and technical support to

allow the tribal offices to use videos in communicating risk to their council members and tribal communities. In addition, tribes such as Shoshone Bannock and Seneca have used the facilities at Xavier University to produce their video products.

Tribal colleges have and continue to educate and train large numbers of Native American students (compared to majority schools). Tribal colleges themselves are in need of capacity building. Experience has shown that capacity building can be greatly enhanced in schools by appropriate partnerships with other higher education institutions that can provide support to the colleges for infrastructure development. In an effort to further enhance the capacity of tribal colleges, a workshop will be conducted under this cooperative agreement that features successful models for science and engineering education. The goal is to strengthen the capacity of tribal colleges to attract and retain students in science and engineering, areas that are of critical need for tribal manpower. Tribal colleges can play a key role in producing science and engineering graduates similar to what historically Black colleges and universities (HBCU) have done. Diné College, Crownpoint Institute of Technology, Southwestern Indian Polytechnic Institute and Sinte Gleska University have expressed a desire for Xavier to work with them on the development and enhancement of environmental science curricula. Models similar to the Star Programs at Xavier have already shown successes at the Nez Perce and Yakama reservation schools.

4.2 SRS Informational Workshops

African Americans and Hispanic Americans around the SRS installation have not been active in the traditional way of public participation, a 1994 CERE study revealed. Despite the fact that they comprise a significant portion of the population, community members have generally stayed away from public meetings and other means commonly employed by the installation as a way to gather citizens' views. DOE activities generally were not known to the communities, even though they might be located downwind or downgradient from the site. In order to encourage African American and Hispanic American participation in the SRS cleanup activities, informational workshops will be conducted in partnership with Savannah State University (an HBCU) and the Citizens for Environmental Justice.

This activity supports Executive Order 12898 that requires federal agencies to address environmental justice in minority and low-income populations. It also supports DOE's stated commitment to implement EO 12898 (DOE 1997). The workshops are designed to help community members understand DOE challenges in its cleanup activities and to help community leaders engage in a

dialogic on cleanup options. Eight workshops were successfully implemented in 1999 with large turnout and interest. In addition to informing and educating the community members of site waste management activities, the workshops provided a venue for the analysis and discussion of Environmental Impact Statements (EISs) associated with spent nuclear fuel, disposition of surplus plutonium, and tritium production at SRS. Through these workshops, Xavier and Savannah State universities are able to assist in the analysis and interpretation of complex technological issues. Participants become familiar with the issues and are able to communicate their positions to CAB members.

4.3 Opinion Survey

Effective risk communication focuses on the relationship between producers and users of scientific information on risks, addressing ways to improve communication in order to increase public understanding and guide more informed decisions. In any decisionmaking process, decisions must not only be informed by technical information but also by the preferences of the public. Social science tools such as focus group research and opinion surveys are important instruments to help inform decisions. In late 1996, Xavier conducted a telephone opinion survey of residents around SRS and Hanford installations. The opinion survey revealed information on respondents' views on DOE activities, including the need for more information, various preferred land use options, etc. Opinion surveys are one way of gauging public's confidence on how well DOE is managing the sites and getting information on important issues of interest and concern to the public.

We propose to conduct a telephone survey involving residents around SRS and Hanford. The opinion survey, to be conducted in 2000, will provide information on issues regarding cleanup options, waste management, and others that are important and useful to site managers. A team of Xavier and Savannah State University faculty, staff and students will conduct the opinion survey. Approximately 1000 respondents' views will be surveyed.

4.4 Documented Concerns Database Update

In 1999, Xavier updated its collection of comments in a database started in 1994. The database covers documented public comments made during the period 1989 to the present. Comments made by various stakeholders found in public meeting transcripts, letters to environmental offices, newspaper articles, etc. were retrieved, coded and abstracted. Under this cooperative agreement, Xavier will update its database on SRS and Hanford, and post the information on the Internet to allow university and private sector scholars to utilize the data for research. Xavier will also undertake research on the public's view of

Columbia River contamination resulting from Hanford activities. Concerns on the river will be tracked over a ten-year period and analyzed.

4.5 Seventh Generation Conference Focusing on Stewardship and Risk

Several risk assessment forums sponsored by Xavier University have provided opportunities for tribes and tribal organizations to discuss and debate models and methodologies for assessing risks to human health and the environment. These forums, the first held in June 1996 at the Shoshone Bannock Reservation (Fort Hall, Idaho), the second in October 1996 at the Nez Perce Reservation (Lapwai, Idaho), and the third in June 1997 in Albuquerque, New Mexico and hosted by the San Ildefonso Pueblo, were unique because they were attended by tribal representatives sent by their governments as well as representatives of tribal organizations involved in risk assessment of hazardous wastes. Many tribal members became knowledgeable of the risk assessment methodologies and several commonly used models. Participants of the forums have expressed a need to include cultural considerations into the risk decisionmaking process. To continue this dialogue on risk issues, Xavier will hold a conference focusing on risk and stewardship issues relevant to site cleanup and site closure. The recommendations that will result from the conference should also prove useful to DOE managers in charge of making decisions about site management.

The conference will involve representatives from tribal governments directly or indirectly impacted by federal agency activities as well as tribal organizations with interest in the management of hazardous waste sites. The Seventh Generation Conference will address many issues confronting the tribes such as

How can assessment of risk be improved to address impacts to culture and quality of life?

How can risk be communicated more effectively to tribal communities? How can risk to tribal culture and well-being be communicated to federal agencies and the public?

Are there decisionmaking processes used in Indian lands that include cultural considerations?

Will site closure activities be consistent with federal trust responsibility?

How can important site closure information be guarded and passed on to future generations?

What role can tribal colleges play in addressing risk and stewardship issues?

These and many more questions will be discussed at the conference that is tentatively scheduled for summer 2000 in Albuquerque, New Mexico. Xavier will convene a Steering Committee which will guide the planning and implementation of the Conference.

4.6 Cultural Considerations in the Risk Assessment Process

Federal agencies such as EPA and DOE acknowledge the limitations of current models and methodologies for assessing risk posed by hazardous materials. In a December 1998 conference, the EPA facilitated a discussion and dialogue on risk assessment with the intent of gathering sufficient information to start to develop a process for tribally appropriate risk assessment methodology. There is a cadre of Native American individuals knowledgeable about the assessment of risks as practiced by EPA and DOE. A number of these individuals are members of the Intertribal Risk Assessment Committee, a committee formally convened after the Tribal Risk Assessment Forum held in Fort Hall, Idaho, in 1996. Furthermore, there are tribal environmental offices that have started to develop a process for assessing risk on tribal lands. Xavier University will work with the IRAC and Shoshone Bannock Tribes to assist the tribes in developing a methodology for risk assessment that incorporates risk to culture. Xavier University will continue to support the efforts of these groups to devise a better protocol for communicating risks.

5.0 CONSORTIUM PARTNERSHIPS

Xavier University will carry out these tasks in partnership with the following organizations.

Citizens for Environmental Justice (CEJ), headquartered in Savannah, Georgia, was created after studies showed that an overwhelmingly disproportionate number of hazardous waste facilities and toxic waste dump sites are located in Black communities and that people of color and poor people suffer from these problems more severely than others. The aims of CEJ include: (1) to help increase the level of participation of Black people in the work for a safe and clean environment; (2) to work actively in protecting human, water, air and land resources by educating, organizing and mobilizing the Black community; and (3) to serve as an information clearing house on local, state, regional, national and international environmental problems and issues that affect people of African ancestry. Although the main focus is on the black community, CEJ works with all people struggling for environmental justice. CEJ is a grassroots network working with others on concerns about federal facilities, including the Savannah River Site. Other issues include waste management, environmental restoration, risk assessment, toxic use, and public participation.

The Intertribal Risk Assessment Committee (IRAC) is a group of professional environmental leaders from tribes impacted by the presence of hazardous waste sites or activities. Although it had its beginnings as early as 1989, it was formally organized in 1996 after a Tribal Risk Assessment Forum held at the Shoshone Bannock Reservation. Members come from a wide variety of training backgrounds and all are knowledgeable of risk assessment models and methodologies. The group strives to develop ways of improving risk assessments, especially the inclusion of cultural risk impacts in environmental assessments. The committee is chaired by Jeanette Wolfley, an attorney from the Shoshone Bannock Tribes in Idaho.

The National Congress of American Indians (NCAI), founded in 1944, is organized as a representative congress of consensus on national tribal priority issues. The NCAI, headquartered in Washington, D.C., is the oldest, largest and most representative American Indian and Alaska Native advocacy organization in the United States. It serves a diverse network of Indian nations with a combined citizenry comprising more than three quarters of the American Indian and Alaska Native national population. Tribal delegates deliberate issues of pressing concern in accordance with their government's policies, goals and needs. Current NCAI issues and activities include: (1) protection of programs and services to benefit Indian families, Indian education, Indian cultural resources and religious freedom rights, the right of Indian economic opportunity, and the right of Indian people to safe and affordable housing; (2) enhancement of Indian health care; and (3) support of environmental protection and natural resources management.

Northern Arizona University (NAU), founded in 1899, is a comprehensive institution offering undergraduate and graduate degrees in 130 major emphasis areas. Located in Flagstaff, the University's nine colleges and schools serve approximately 11,000 students on campus. NAU tops the nation in the number of Native American students graduating with a degree in engineering. The Institute for Tribal Environmental Professionals (ITEP), located at NAU in Flagstaff, provides assistance to Indian tribes and other public and private groups in promoting effective environmental resource management on Indian lands. This assistance is provided through education, training, information services, intergovernmental relations, and environmental program development. ITEP represents NAU's commitment to public and private partnerships that support educational, social, environmental, and economic improvements for Native Americans.

Savannah State University (SSU), located in Savannah, Georgia, was established in 1890. Its historic commitment to the educational needs of the Black students as mandated in the original charter continues, but it also offers quality education to all students. SSU is a four-year, co-educational unit of the University System of Georgia, with three regular academic quarters and one summer quarter, an enrollment of over

3000 students, and a 20:1 student/faculty ratio. The institution offers programs designed to assist students to become active and creative citizens and to attain their fullest spiritual and moral stature. It is committed to a major and continuing interest in developing and implementing curricular and public service activities that address the issues, concerns, problems, resources and opportunities of urban and coastal communities. The BS degree program in Environmental Studies at Savannah State provides a curriculum for persons planning to pursue careers in environmental science and prepares students planning advanced study in environmentally related disciplines.

6.0 BUDGET AND BUDGET JUSTIFICATION

A summary page and accompanying pages of detailed budget data are enclosed.

6.1 Budget Data

Budget figures for each of the planned tasks are indicated in the spreadsheets. The project requires 80% effort (total) of the PI, the equivalent of 3.9 full-time research/program assistants, and an administrative assistant. Students are also involved in the project, both to provide services as well as to receive training. Travel is estimated at \$1300 per person-trip. This figure is based on the history of travel expenses on the grant. Included also in all of the budget spreadsheets are indirect costs of 55% of salaries and student wages, consistent with the university's negotiated rate for indirect costs with the federal government. Indirect costs item covers only salaries and wages. Fringe benefits costs are estimated at 16% of salaries only (not including student wages).