Safer Offshore Energy Systems Grants 1 & Healthy Ecosystems Grants 1

Grant Type: Exploratory

Many areas of research and development pertaining to the enhancement of oil system safety, human health, and the environment of the Gulf of Mexico and other offshore energy production regions could benefit from innovations. Innovative ideas or technologies often need time and testing to develop and evolve.

The Gulf Research Program exploratory grants aim to jumpstart innovations and transformative ideas by providing seed money for research in its early conceptual phase, activities that can accelerate concept to testing, or development of novel approaches. The funding opportunity encourages innovators to explore and test ideas, collect preliminary data, or use the lessons learned from failed ideas to change course. The grants also could support the use of novel approaches, application of new expertise, or engagement of non-traditional disciplinary or interdisciplinary perspectives to break new ground on an old or a new problem.

Topics of Request For Applications for Exploratory Grants – Award Year 2015

The Gulf Research Program welcomes proposals from non-federal organizations on behalf of all qualified scientists, engineers, health professionals, and educators on one of the following topics:

- Exploring Approaches for Effective Education and Training of Workers in the Offshore Oil and Gas Industry and Health Professions (Safer Offshore Energy Grants 1)
- Linking Ecosystem Services Related to and Influenced by Oil and Gas Production to Human Health and Well-being (Healthy Ecosystems Grants 1)

Safer Offshore Energy Grants 1

Topic: Exploring Approaches for Effective Education and Training of Workers in the Offshore Oil and Gas Industry and Health Professions

Opportunity:

The nation's middle-skilled workforce includes workers in occupations that require considerable skill but not advanced degrees. In the Gulf of Mexico and outer continental shelf, these workers in the offshore oil and gas industry and health professions play key roles in maintaining the safety of people and the environment and in improving disaster preparedness and response. For example, in the event of natural or technological disasters, these workers may have to respond quickly to prevent and mitigate any environmental and public health effects. Effective training of middle-skilled workers and collaborative training among different groups involved in disaster preparedness and response would contribute to enhancing safety culture and preventing oil spills and mitigating impacts of natural and technological disasters.

What we are looking for:

We seek applications for activities that explore new and innovative approaches for educating and training middle-skilled workers in the oil and gas industry and health professions (including individuals working as emergency responders and environmental specialists). Such approaches would specifically leverage the growing evidence base about how people learn to improve safety in job functions and operations and to improve disaster preparedness and response.

Below are examples of the types of activities that may be needed to advance this work. This list is by no means intended to be complete, but rather is meant to challenge proposers to consider how to develop and implement education programs for middle-skilled workers that improve safety in job functions and operations and strengthen disaster preparedness and response.

- Research that explores the role and effectiveness of different pedagogical and andragogical approaches and learning assessment models (for example, experientially based learning, such as apprenticeship or vocational models; competency-based assessment strategies) in enhancing a safety culture or disaster preparedness and response amongst middle-skilled workers;
- Activities that bring together novel combinations of expertise and groups to develop non-traditional approaches to educating and training middle-skilled

workers in the oil and gas industry and health professions that emphasize the enhancement of a safety culture;
- The development of novel training approaches or curricula that take advantage of technology-enabled teaching and learning to train middle-skilled workers for work in increasingly technologically sophisticated industries;
- The development of innovative education programs for middle-skilled workers in the oil industry or health professions that emphasize the elaboration of strategic partnerships between education institutions and employers to better align education and training programs with job skills;
- Educational and training initiatives that emphasize the interconnectedness of middle-skilled workers at the energy-environment interface and promote communication, coordination, and trust between oil system workers, regulators, spill responders, and health professionals, so that they can work together effectively in maintaining the health of the Gulf coast environment or interact most effectively in the event of natural or technological disasters;
- Research that identifies gaps in the knowledge, skills, and attitudes instilled by current education and training programs and those needed to build a middle-skilled workforce with a stronger safety culture and recognition of the integrated nature of work at the nexus of energy extraction, the environment, and human health. Research here also could identify the types of educational research or evaluation activities that are needed to close these gaps.

To be considered all proposals must include at least two of the following:

- Indicate clearly the ways in which underrepresented groups and underprivileged workers will be sought and incorporated into the activities described in the application;
- Involve at least two or more types of organizations (e.g. educational institutions, industry groups, professional societies, etc.) as partners in conducting the research or carrying out the activities described in the application;
- Have plans to develop products (demonstrations, manuals/textbooks, web sites, etc.) that can be used by other organizations and programs in their own education efforts;
- Demonstrate how the results of these efforts could potentially be used in regions outside of the Gulf of Mexico where there is significant energy development in the outer continental shelf.

We will not consider funding for:

- Activities or programs that are simply a continuation of efforts that are already underway;
- Activities or programs that require construction of extensive new facilities.

Healthy Ecosystems Grants 1

Topic: Linking Ecosystem Services Related to and Influenced by Oil and Gas Production to Human Well-being

Opportunity:

The Gulf of Mexico delivers a broad suite of ecosystem services, including the provision of seafood, stabilization of coastal habitat, and recreational opportunities. The region also produces oil and gas, which benefit individuals with occupations as well as communities with energy, economic growth and stability. Managing a diverse portfolio of ecosystem services to meet human needs is a central challenge because pursuing the benefits from one ecosystem service may result in diminishing the quantity or quality of other ecosystem services in the same region. An improved understanding of ecosystem services in relation to the production of oil and gas, their provision under dynamic conditions, and their interconnectedness to human communities would help optimize the multiple services provided by a system, manage trade-offs, and inform decisions in ecosystem restoration. The focus of this opportunity is to advance knowledge in ecosystem services related to or influenced by offshore and coastal energy production and their linkages to human well-being. The funded activities could expand and accelerate the application of ecosystem services to the management and restoration of the Gulf of Mexico and other ecosystems in the outer continental shelf.

What we are looking for:

We seek applications for activities that will advance knowledge in ecosystem services and their linkages to human wellbeing in relation to offshore and coastal energy production and expand and accelerate the application of ecosystem services to the management and restoration of the Gulf of Mexico and other ecosystems in the outer continental shelf. Below are examples of the types of activities that may be needed to advance this work. This list is by no means intended to be complete but

rather is meant to challenge proposers to consider the type of cutting-edge work needed.

- Research to address how ecosystem services change over time and in response to drivers such as climate change, sea-level rise, nutrient pollution, fish harvest, and energy production in the Gulf of Mexico.
- Research or modeling to predict reversibility of changes in ecosystem services under different and multiple drivers in the outer continental shelf.
- Research or convening activities to address the governance structures that could facilitate choices among combinations of ecosystem services that are favorable for human wellbeing and sustainable over multiple generations in the outer continental shelf.
- Creation of a framework or model for integrated analysis of ecosystem services in the Gulf of Mexico region.
- Identification of opportunities and novel approaches for connecting environmental and social science data that will facilitate the development of first generation ecosystem service models for the Gulf of Mexico and other outer continental shelf regions.

To be considered all proposals must:

- Address multiple ecosystem services in the context of multiple factors that affect the Gulf of Mexico region or other outer continental shelf regions, including oil and gas production.
- Address questions at the cutting edge of international research on ecosystem services.