Concept Clearance

Branch: Worker Education and Training Branch

Council Period: 201810

Concept Title: SBIR E-Learning for HAZMAT and Emergency Response (R43/R44)

Introduction

The Worker Training Program (WTP) has a unique requirement to further the development of e-Learning health and safety training products from a variety of delivery methods to assist both students and instructors in the training and education process. The major objective of the NIEHS WTP is to prevent work related harm by assisting in the training of workers in how best to protect themselves and their communities from exposure to hazardous materials. The financial support for this initiative comes directly from NIEHS Worker Education and Training Branch SBIR funds. This program encourages Small Business Innovation Research (SBIR) grant applications from small business concerns (SBCs) that propose to further the development of Advanced Technology Training (ATT) products for the health and safety training of hazardous materials (HAZMAT) workers, skilled support personnel, emergency responders in biosafety response and infectious disease training and cleanup, community and citizen preparation and resiliency, and for ATT tools to assist in research into the acute and long-term health effects of environmental disasters. ATT as defined by the WTP includes, but is not limited to, online training, mobile applications, virtual reality, and serious gaming, which complement all aspects of training from development to evaluation including advanced technologies that enhance, supplement, improve, and provide health and safety training for hazardous materials workers.

Research Goals and Scope

This program focuses on the development of e-learning training products that assist both students and instructors with a variety of delivery platforms. Note that all products must be directly related to the health and safety training of workers exposed to hazardous (HAZMAT) materials such as chemical, biological, or radiological substances. Occupations that encompass workers exposed to these hazards include, but are not limited to, workers cleaning up Superfund sites, skilled support personnel, waste treatment personnel, emergency responders in biosafety response, emergency responders in disasters, and environmental restoration, waste treatment, and emergency response activities at sites in the U.S. Department of Energy (DOE) nuclear weapons complex.

The following three areas describe the type of products that will be supported with this SBIR program.

1. Products to support e-teaching in safety and health training: E-teaching in safety and health training encompasses products that assist trainers/instructors in developing and delivering safety and health training in a number of environments ranging from classroom to remote learning situations. Potential products include, but are not limited to, products aimed at peer-trainers or worker-trainers; trainers needing assistance with language, literacy, or cultural differences in the classroom; trainers needing assistance in developing small group activities and other teaching methodologies; and technology applications for broadcasting safety and health classes and resources to remote learners. In addition to the above and specific to DOE safety concerns, potential products aimed at workers at the DOE nuclear weapons complex might also include products to assist training workers on rights and responsibilities and other DOE policies; on addressing Native American cultural and language concerns; and on the development of safety cultures within the complex.

2. Products to support e-Learning in safety and health training: E-Learning in safety and health training involves technology deployment to provide individualized or small group-based training in learning centers, in a technology-enabled "smart classroom" or to a learner's desktop, cell phone, laptop, or tablet. This might also utilize social media applications. As an ATT option, e-Learning is used to enable individualized learning at the learners' convenience and own pace, prior to, as part of, after, or in place of classroom training. Potential products include, but are not limited to, the creation of topic-oriented products that address clearly identified health and safety issues involving hazardous materials and emergency and disaster response.

3. Products to support the health and safety training of disaster emergency response training and resiliency training: Major disasters pose numerous, important environmental research questions and issues that can only be addressed during the period of disaster response and recovery. In the aftermath of numerous disasters, a number of topical areas and questions have been identified including those that, if addressed, would impact recovery, as well as future preparedness efforts. These topics included resilience; biosafety response and cleanup; the public health and healthcare system response; mold mitigation and health issues; characterization of the morbidity, disability, and mortality among impacted populations (including behavioral health outcomes, and outcomes for responders); disaster research responder education and training; communications; and the use of social media. There is likely a need for short, incident specific awareness training that can be delivered during the disaster recovery period including training on issues such as confined spaces, blood borne pathogens, personal protective

equipment, hazard assessment, fire watch, first aid/CPR, site safety, working around heavy equipment, physical threats such as heat stress, fatigue, shift work, fall protection, and psychological stress.

Mechanism and Justification

We will continue to use the Small Business Innovation Research (SBIR) Grant - Phase I, Phase II, and Fast-Track I R43/R44 grant mechanism. NIEHS encourages applicants to review the relevant program documentation, to pursue partnerships and collaboration with awardees of the WTP program (http://www.niehs.nih.gov/careers/hazmat/about_wetp/), and to design new Advanced Technology Training (ATT) (http://www.niehs.nih.gov/careers/hazmat/about_wetp/att/index.cfm) or e-learning products that can extend the existing NIEHS supported curricula and training programs into the digital world while adhering to the Minimum Training Criteria for WTP. No application will be accepted to assist NIEHS with its internal management and operations. This program seeks to avoid duplication. Specially, applicants must review the descriptions of current and prior NIEHS SBIR awards found at http://www.niehs.nih.gov/careers/hazmat/about_wetp/att/sbir/index.cfm and http://www.niehs.nih.gov/careers/hazmat/about_wetp/att/sbir_current/index.cfm, and avoid duplicating the curricula and subject matter content of these awards. An exemption is allowed for those applications that are highly innovative.

We propose the development of an RFA to replace the current announcement (RFA-ES-18-006) that has just closed on July 31, 2018. Importantly, the new plan would retain all essential elements and goals of the current program. It is expected that the cost per grant for the R43 is $100,000 for one year and R44 will be $200,000 for two years with 3-6 awards to be made.

Proposed Timeline for SBIR E-Learning for Hazmat:
Council Concept Clearance: September 2018
RFA Release Date: May 2019
Application Due Dates: July 2019
Peer Review Dates: Fall/Winter 2019
Council Review Dates: January/February 2020
Earliest Anticipated Start Date: April 2020