DOE-ID NEPA CX DETERMINATION

CX Posting No.: DOE-ID-21-025

SECTION A. Project Title: A High-Temperature Mechanical Testing Platform for Accelerated, Parallelized, and Miniaturized Materials Qualification – University of Texas at El Paso

SECTION B. Project Description

The University of Texas at El Paso (UTEP) proposes to acquire an Instron 8862 servo-electric testing system with intelligent furnace control capable of high temperature quasi-static (tensile, creep, stress relaxation, etc.) and dynamic testing (low cycle fatigue, creep-fatigue, etc.). This instrument will be employed towards the rapid qualification/acceptance of nuclear materials; where accelerated test methods, in development by UTEP, will be executed, verified, and validated. The results will be codified in ASTM test standards and shared with nuclear science and engineering (NS&E) community. The proposed accelerated tests focus on the accelerated capture of creep, fatigue, and creep-fatigue data for nuclear structural materials where the accelerated tests, completed in less than 100 hours, can be processed to replicate up to 100,000+ hours of conventional testing data. The Instron 8862 will be located within the MERG Lab of the Energy Engineering Division of the UTEP NASA Aerospace Center. The requested equipment will expand UTEP's capabilities and research portfolio and provide research, training, and educational opportunities for its students.

SECTION C. Environmental Aspects / Potential Sources of Impact

The university has procedures in place to handle any waste that will be generated through this project. The action would not create additional environmental impacts above those already occurring at the university.

SECTION D. Determine the Level of Environmental Review (or Documentation) and Reference(s): Identify the applicable categorical exclusion from 10 CFR 1021, Appendix B, give the appropriate justification, and the approval date.

Note: For Categorical Exclusions (CXs) the proposed action must not: 1) threaten a violation of applicable statutory, regulatory, or permit requirements for environmental, safety, and health, including requirements of DOE orders; 2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities; 3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; 4) adversely affect environmentally sensitive resources. In addition, no extraordinary circumstances related to the proposal exist which would affect the significance of the action, and the action is not "connected" nor "related" (40 CFR 1508.25(a)(1) and (2), respectively) to other actions with potentially or cumulatively significant impacts.

References: B1.31 Installation or relocation and operation of machinery and equipment (including, but not limited to, laboratory equipment, electronic hardware, manufacturing machinery, maintenance equipment, and health and safety equipment), provided that uses of the installed or relocated items are consistent with the general missions of the receiving structure. Covered actions include modifications to an existing building, within or contiguous to a previously disturbed or developed area, that are necessary for equipment installation and relocation. Such modifications would not appreciably increase the footprint or height of the existing building or have the potential to cause significant changes to the type and magnitude of environmental impacts.

Justification: The activity consists of the acquisition, installation, commissioning, training, and integration of equipment to provide high throughput characterization of nuclear fuels and materials.

Is the project funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act) ☐ Yes ☒ No

Approved by Jason Anderson, DOE-ID NEPA Compliance Officer, on 07/26/2021.