DOE-ID NEPA CX DETERMINATION

CX Posting No.: DOE-ID-16-065

SECTION A. Project Title: Cask Mis-Loads Evaluation Techniques

SECTION B. Project Description

The *main objective* of this project is to develop a probabilistically-informed methodology, which involves innovative non-destructive evaluation (NDE) techniques, to determine the extent of potential damage or degradation of internal components of used nuclear fuel canisters/casks during normal conditions of transport or Hypothetical accident conditions. The University of Houston will use NDE based on non-invasive acoustic sensing, elastodynamic waveform tomography, and time-tagged neutron interrogation.

SECTION C. Environmental Aspects / Potential Sources of Impact

The University of Houston has procedures in place to handle radioactive materials and any waste that will be generated through this project. The action would not create additional environmental impacts above those already permitted 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: B3.6 Siting, construction, modification, operation, and decommissioning of facilities for small-scale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial development.

Justification: The project consists of research and development aimed at determining the extent of potential damage or degradation of internal components of used nuclear fuel canisters/casks during normal conditions of transport or Hypothetical accident conditions.

Approved by Jack Depperschmidt, DOE-ID NEPA Compliance Officer on 7/12/2016