

DOE-ID NEPA CX DETERMINATION

SECTION A. Project Title: Risk Assessment of Structural Integrity of Transportation Casks – University of Utah

SECTION B. Project Description

The University of Utah proposes to assess the risk of loss of structural integrity of transportation casks and fuel cladding after extended storage. The project will include subjecting canisters to impact loads and puncture tests. Casks will be subjected to accelerated degradation due to chloride attacks to simulate the effects of exposure to salt-containing environments. Accelerated degradation using impressed current may be used. Dummy fuel rods will be subjected to mechanical test to simulate dynamic loads when they are placed in casks. Selected sections of the dummy fuel rods will be artificially hydrided in a gas mixture.

SECTION C. Environmental Aspects / Potential Sources of Impact

The research would use dummy fuel rods with mechanical and chemical characteristics similar to those of uranium oxide. 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: 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 activity consists of cask, canister, and fuel cladding integrity for research purposes.

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

Approved by Jack Depperschmidt, DOE-ID NEPA Compliance Officer on 11/4/2013