

# DOE-ID NEPA CX DETERMINATION

**SECTION A. Project Title: Innovative Approach to SCC Inspection and Evaluation of Canister in Dry Storage – Colorado School of Mines**

**SECTION B. Project Description**

The Colorado School of Mines, in collaboration with Sandia National Laboratory (SNL), proposes to investigate the potential degradation of austenitic stainless steel canisters used in dry storage systems for Spent Nuclear Fuel (SNF). This proposed integrated research project is focused on the prediction of canister chloride-induced stress corrosion cracking (CISCC) and its effect on canister integrity during long-term interim storage.

**SECTION C. Environmental Aspects / Potential Sources of Impact**

Radioactive Material Use – It's not clear yet if the actual experiment will be performed during the three years of the project (based on simulation results). If the proposed experiment is performed, it will be carried out by SNL using a Cf-252 neutron source. SNL has in place procedures to handle the small amount of activation products anticipated.

**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 university-scale research aimed at investigating canister chloride-induced stress corrosion cracking.

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 08/25/2015