

DOE-ID NEPA CX DETERMINATION

SECTION A. Project Title: Development of High Performance ODS Alloys– Texas A&M University

SECTION B. Project Description

Texas A&M University proposes to develop and test the next generation of optimized ODS alloys needed to meet the nuclear community's need for high strength, radiation-tolerant cladding and core components, especially with enhanced resistance to void swelling. Collaboration with two Japanese groups provides this project with two sets of first-round candidate alloys that have already undergone extensive development and testing to unirradiated properties. The project will employ coordinated experiments to study swelling, radiation hardening and changes in mechanical properties not only of these ODS alloys, but also further-optimized ODS candidates resulting from these first-round studies. The alloys will undergo structural characterization following ion irradiation.

SECTION C. Environmental Aspects / Potential Sources of Impact

The action will not create additional environmental impacts above those already occurring at the university. The University has all the necessary processes and procedures in place to manage and dispose of all waste streams.

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 key factors influencing radiation tolerance of new ODS alloys for further property optimization.

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 09/16/2014