

# DOE-ID NEPA CX DETERMINATION

**SECTION A. Project Title: Innovative Use of Accident Tolerant Fuels (ATF) with the RCIC System to Enhance Passive Safety of Commercial LWRs – Texas A&M University**

**SECTION B. Project Description**

Texas A&M University, in collaboration with Sandia National Laboratories and Exelon Corporation, proposes to (1) demonstrate new operational strategies with the combined use of Accident Tolerant Fuels (ATF) and the Reactor Core Isolation Cooling (RCIC) System to increase the passive safety capabilities of current Boiling Water Reactors (BWRs) in delaying or preventing core damage; and (2) pursue the delay of containment venting until after a 72-hour coping period through new BWR Suppression Pool mixing procedures. An experimental system appropriate for testing the proposed ATF-RCIC System coupled strategies in BWR plants with a Mark I containment is available in the PI's experimental laboratory.

**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 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 activity consists of university-scale research activities aimed at increasing the ability of existing nuclear power plants to passively respond to beyond design basis events using existing equipment and without changes to the plants.

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

Approved by Jason Sturm, DOE-ID NEPA Compliance Officer on 08/06/2018