

# DOE-ID NEPA CX DETERMINATION

**SECTION A. Project Title: Multi-Phase Model Development to Assess RCIC System Capabilities under Severe Accident Conditions – Texas A&M University**

**SECTION B. Project Description**

Texas A&M University proposes to provide methods for evaluation of Reactor Core Isolation Cooling (RCIC) System performance under severe accident conditions. The technical approach involves integration of models for the key aspects of the RCIC System, some models which will be developed anew and others which will be adopted from existing techniques. The individual models will be evaluated against experimental data, some of which exists and some of which will be generated herein for the turbine model. Experimental data will be generated using a facility design to experimentally investigate the functionality of the RCIC System under elevated suppression pool temperatures, corresponding to hypothetical prolonged station blackout conditions.

**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 the functionality of the RCIC System under elevated suppression pool temperature.

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