DOE-ID NEPA CX DETERMINATION

CX Posting No.: DOE-ID-16-013

SECTION A. Project Title: Development and Integration of Light Water Reactor (LWR) Materials Corrosion Degradation Codes into Grizzly – University of California at Berkeley

SECTION B. Project Description

The University of California, Berkeley proposes to develop deterministic, physico chemical models for predicting the accumulation of localized corrosion damage in the primary coolant circuits of the currently operating fleet of light water reactors. The successful modeling of the accumulation in the primary coolant circuits will require the experimental measurement of kinetic parameters for hydrogen evolution, the reduction of oxygen, and the electro-dissolution of the alloys.

SECTION C. Environmental Aspects / Potential Sources of Impact

Chemical Waste Disposal – Waste to be disposed are non-toxic boric acid and lithium hydroxide solutions. They will be disposed of under normal laboratory procedures that are currently in place at UC Berkeley.

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 of corrosion damage of primary coolant circuits.

Approved by Jack Depperschmidt, DOE-ID NEPA Compliance Officer on 06/29/2016