DOE-ID NEPA CX DETERMINATION

CX Posting No.: DOE-ID-15-079

SECTION A. Project Title: Elucidation of the Kinetics of Advanced Separation Systems – California State University at Long Beach

SECTION B. Project Description

California State University at Long Beach, in collaboration with Idaho National Laboratory (INL), proposes to quantitatively measure absolute ligand complexation kinetics behind a variety of suggested separations systems for both lanthanides and actinides in the organic and aqueous phases. The research will include experiments on aqueous phase kinetics for complexant systems and organic phase reaction kinetics for extractant systems and development of a computer model.

SECTION C. Environmental Aspects / Potential Sources of Impact

Radioactive Material Use/Radioactive Waste Generation – The required radioactive work will be performed at Idaho National Laboratory. INL has appropriate waste-disposal procedures in place. Work could be performed at the INL MFC and Central laboratories which have laboratory instructions in place. Waste disposal at these facilities is administered by Waste Generation Services.

Chemical Use/Storage / Chemical Waste Disposal – Non-active lanthanide work will be performed at the university. Standard disposal facilities for non-active waste are in place and administered by the College of Natural Science and Mathematics Safety Office. Total volumes of non-active waste generated at the university are expected to be a maximum of 10-15 L per year.

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 complexation kinetics of separations systems for lanthanides and actinides in organic and aqueous phases.

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 09/15/2015