

DOE-ID NEPA CX DETERMINATION

SECTION A. Project Title: X-ray Diffraction System to Enhance VCU Nuclear Materials Research and Education – Virginia Commonwealth University

SECTION B. Project Description

Virginia Commonwealth University proposes to purchase and install an X-ray diffraction (XRD) system capable of handling a sample in a controlled environment operating in a range of room temperature to 500°C. The proposed system will allow the university to add crystal structure analyses of special nuclear materials.

SECTION C. Environmental Aspects / Potential Sources of Impact

Radioactive Material Use – Depleted uranium will be used or the university Radiation Safety Team will obtain further state license to used other materials. These materials will be used for characterization, and therefore, there will be no radioactive waste generation.

Chemical Use/Storage – Typical rare-earth chemicals and other metals will be used for material characterization. Less than 1 gram of material will be used. The action would not create additional environmental impacts above those already occurring 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: B1.31 Installation or relocation and operation of machinery and equipment (including, but not limited to, laboratory equipment, electronic hardware, manufacturing machinery, maintenance equipment, and health and safety equipment), provided that uses of the installed or relocated items are consistent with the general missions of the receiving structure. Covered actions include modifications to an existing building, within or contiguous to a previously disturbed or developed area, that are necessary for equipment installation and relocation. Such modifications would not appreciably increase the footprint or height of the existing building or have the potential to cause significant changes to the type and magnitude of environmental impacts.

Justification: The activity consists of purchasing and installing equipment for teaching and research purposes.

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 07/10/2018.