

DOE-ID NEPA CX DETERMINATION

SECTION A. Project Title: Scientific Infrastructure Support for Consolidated Innovative Nuclear Research FY17 – University of Wisconsin-Madison

SECTION B. Project Description

The University of Wisconsin proposes to develop corrosion capabilities in the Environmental Degradation of Nuclear Materials Laboratory, a relatively recent facility used to study the coupling between irradiation and corrosion of nuclear materials using state of the art in-situ techniques and materials characterization techniques specifically dedicated to corrosion induced degradation of nuclear materials. To accomplish the objectives, the university will purchase a controlled recirculation loop (stainless steel 316, max. temperature 360°C, max. pressure of 200 bar and volume flow rate 15 l/h) which will be connected to the autoclave. A recirculation loop provides stable and controlled water chemistry for the entire testing duration in the autoclave. This recirculation loop consists of two parts: a low-pressure part for water regeneration and a high-pressure part for water pressurization, heating and cooling. The university will also purchase a Glow Discharge Optical Emission Spectroscopy (GD-OES) to characterize nuclear materials degradation.

SECTION C. Environmental Aspects / Potential Sources of Impact

The action consists of purchasing equipment to be used in research and teaching. 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 4/6/2017