

# DOE-ID NEPA CX DETERMINATION

**SECTION A. Project Title: eVinci Micro Reactor Nuclear Demonstration Unit Readiness Project – Westinghouse Electric Company**

**SECTION B. Project Description**

Westinghouse Electric Company proposes to prepare for construction of the Nuclear Demonstration Unit (NDU) for the eVinci™ Micro Reactor through design, analysis, testing and licensing. The milestones of the proposed project are: (1) Transition the eVinci program from Conceptual Design to the Basic Design phase; (2) Perform testing of the Basic Design including Integral Effects Tests, Separate Effects Tests, and Fuel System Qualification Tests; (3) Execute the Detailed Design of the NDU including cost analysis and site selection; (4) Develop a safety case for the NDU based on pre-licensing engagement with the regulator as well as available guidance to submit a Construction License Application and perform outreach activities.

**SECTION C. Environmental Aspects / Potential Sources of Impact**

Chemical Use/Storage / Chemical Waste Disposal – Citric acid will be used for stainless steel and molybdenum oxide removal and cleaning, 10 wt% nitric acid will be used for dissolving certain metals, pure sodium will be used for heat pipe filling operations (<5 kg), and basic laboratory chemicals will be used such as greases, sealants, coatings, adhesives, solvents, lubricants, etc. They will be handled and disposed of in accordance with the EHS procedures at Westinghouse.

Hazardous Waste Generation - Certain chemical procedures (i.e., acid etching) will involve the use of hazardous chemicals according to the EHS procedures at Westinghouse.

Industrial Waste Generation – Packaging waste (i.e., cardboard, paper, etc.) will be generated in the shipment and handling of samples.

Westinghouse has procedures to handle all applicable storage, handling, and disposal of hazardous, universal and non-hazardous waste.

**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 materials and configuration tests in support of the development of the NDU.

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 07/25/2019