

DOE-ID NEPA CX DETERMINATION

SECTION A. Project Title Multi Universities for Small Modular Reactor Simulators: NuScale – University of Idaho

SECTION B. Project Description

The University of Idaho, in collaboration with NuScale Power LLC, proposes to design and construct a small modular reactor (SMR) remote simulator that is cloud-based and accessible to multiple research institutions in the region. The simulator will be used for testing of flexible operation scenarios (SMR in concert with wind generation to supply power during periods of low winds), developing enhanced situational awareness for SMR operators with regard to cybersecurity, and testing hybrid systems for industrial processes (i.e. desalination, paper production, wastewater treatment). The simulator will be housed in the Center for Advanced Energy Studies (CAES) to allow public access and flexibility in reactor design testing.

SECTION C. Environmental Aspects / Potential Sources of Impact

Chemical Use/Storage – Salts will be used, but the components of the salts are not hazardous.

Chemical Waste Disposal – Salts will be disposed of in an acceptable manner after use using established procedures.

Industrial Waste Generation – Failed components will be disposed of in an acceptable manner using established procedures.

Water/Well Use – City water will be used to cool a heat exchanger. Minimal water use is expected.

Discharge of Wastewater – The minimal city water used to cool a heat exchanger will be discharged to the sewer. No chemical or waste of any kind will be added to the water. Water temperature will be monitored to ensure the temperature is acceptable.

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.

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 purchasing and installing equipment as well as modifying a laboratory for creating an SMR simulator.

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 8/22/2019.