

DOE-ID NEPA CX DETERMINATION

SECTION A. Project Title: NuScale Small Modular Reactor (SMR) First-of-a-Kind (FOAK) Nuclear Demonstration Readiness Project Completion

SECTION B. Project Description

NuScale Power, LLC proposes to complete the development of the NuScale SMR technology and licensing activities. To achieve the desired outcomes and complete the development program, NuScale is proposing a five-year project that will conduct the remaining licensing activities, first-of-a-kind (FOAK) engineering, supply chain development, testing, and other required activities to have the NuScale SMR ready to enable timely client project deployment. By the end of the project, NuScale will have completed a standard plant design to provide the basis for site-specific design for client projects, the detailed design and supply chain development for all FOAK systems, detailed deployment planning that includes the development of required infrastructure and programs, and all standard NRC licensing required to support client licensing activities.

SECTION C. Environmental Aspects / Potential Sources of Impact

Chemical Use/Storage / Chemical Waste Disposal / Hazardous Waste Generation / Industrial Waste Generation – NuScale will contract for system and component testing services to be conducted in contractor’s existing industrial and laboratory facilities. These services include fabrication and assembly of test apparatus used for steam generator flow induced vibration test, instrumentation and sensor development, control rod assembly drop tests, and thermal hydraulic performance testing. The fabrication of apparatus and conduct of testing requires small amounts of chemical use and generates shop level quantities of hazardous and industrial waste, which will be disposed of in accordance with existing supplier programs.

NuScale will contract for system and component prototypical development and fabrication. These systems include electronic board and chassis assemblies of control system components, steam generator tube bending manufacturing and assembly technique development, and forging/fabrication of valve bodies and internals. These activities generate shop level quantities of hazardous and industrial waste, which are handled appropriately by existing supplier programs.

Water/Well Use / Discharge of Wastewater – The larger flow test programs require the periodic use of bulk water (acquired from municipal water systems). The waste water is discharged to municipal sewer systems in accordance with local permits and regulatory requirements.

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 performing FOAK engineering, supply chain development, and testing to complete licensing activities for the development of the NuScale reactor design.

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 11/18/2019