

DOE-ID NEPA CX DETERMINATION

SECTION A. Project Title: Mixing of Helium with Air in Reactor Cavity following a Pipe Break in HTGRs – The Research Foundation of CUNY on behalf of the City College of New York

SECTION B. Project Description

The Research Foundation of CUNY on behalf of the City College of New York (CCNY) proposes to conduct experiments in support of a model describing mixing of helium and air in reactor cavities during and after blowdown in High Temperature Gas Reactors (HTGRs). The experiments will measure the transient spatial distributions of air and helium in reactor cavities under loss-of-coolant accident conditions. An existing high pressure/high temperature helium flow loop at CCNY will be used, and a simulated reactor building will be constructed and equipped with advanced instrumentation for measuring air and helium concentrations.

SECTION C. Environmental Aspects / Potential Sources of Impact

The college has procedures in place to handle any waste that will be generated through this project. The action would not create additional environmental impacts above those already permitted at the college.

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 university-scale research activities aimed at measuring air and helium concentrations using an existing high pressure/high temperature helium flow loop.

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 07/24/2019