

# DOE-ID NEPA CX DETERMINATION

**SECTION A. Project Title: Integrated Fire Probabilistic Risk Assessment (PRA) Modeling in Support of Operational Efficiency, Design and Innovative Risk-Informed Methodologies in the Nuclear Industry**

**SECTION B. Project Description**

The South Texas Project (STP) Nuclear Operating Company, in collaboration with Illinois Fire Service Institute (IFSI), proposes to develop and implement advanced Integrated Probabilistic Risk Assessment (I-PRA) fire modeling techniques that will remove existing conservatism and lead to realistic Fire PRAs that can be used by the nuclear industry. This project will provide a methodology and computational code that improves Fire PRAs of the existing fleet. Objectives of the project include: developing and incorporating an efficient fire scenario screening method by adapting the RoverD method (Phase I), implementing an I-PRA methodological framework to perform advanced simulation and modeling (Phase II), and performing experimental validation of fire brigade performance modeling (Phase III). Based on the results from Phase I and Phase II, a fire scenario for Fire Brigade response in an Auxiliary Building Switchgear compartment at STP will be designed as an experiment at the IFSI.

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

Air Emissions – The experimental plan for activities at the IFSI in support of the project will require firefighters to search a training structure filled with theatrical smoke. The proposed activities do not require fire suppression, so no water will be used.

**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: B1.2 Training exercises and simulations (including, but not limited to, firing-range training, small-scale and short-duration force-on-force exercises, emergency response training, fire fighter and rescue training, and decontamination and spill cleanup training) conducted under appropriately controlled conditions and in accordance with applicable requirements.

Justification: The activity consists of modeling, simulation, and an experimental simulation to improve probabilistic risk assessment.

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 6/11/2019