DOE-ID NEPA CX DETERMINATION
Idaho National Laboratory

CX Posting No.: DOE-ID-INL-19-014

SECTION A. Project Title: EBR-II Dome Refurbishment Project

SECTION B. Project Description and Purpose:

The Materials and Fuels Complex (MFC) at Idaho National Laboratory (INL) is a world leader in innovative nuclear energy technology and is the hub of the INL Nuclear Energy (NE) test bed. Activities at MFC support core research in nuclear fuels and cladding, radiation damage in core structural materials, chemical separations and fuel recycling, nuclear nonproliferation and nuclear forensics, space nuclear power and isotope technologies, and transient testing of reactor fuels. INL needs to maintain effective nuclear research, development, and deployment (RD&D) capabilities at MFC and to increase the availability of RD&D facilities. To meet the need for increased facility availability for an expanding customer base, the proposed action refurbishes the Experimental Breeder Reactor (EBR)-II Dome for potential future research activities. The scope of the proposed action does not cover potential future research demonstrations. Separate environmental checklists (ECs) will be submitted for research projects proposed in the future.

The EBR-II Dome was scheduled for demolition in 2019. The *Action Memorandum for the EBR-II Final End State* (DOE/ID-11426, April 2010) evaluated alternatives for the final end state of the EBR-II reactor and reactor building as the result of the *Engineering Evaluation/Cost Analysis for the EBR-II Final End State* (DOE-ID 2010) The Action Memorandum was prepared in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC § 9601 et seq.), as amended by the "Superfund Amendments and Reauthorization Act of 1986 (SARA)" (Public Law 99-499), and in accordance with the "National Oil and Hazardous Substances Pollution Contingency Plan" (40 CFR 300). This action is consistent with the joint U.S. Department of Energy (DOE) and U.S. Environmental Protection Agency (EPA) Policy on Decommissioning of Department of Energy Facilities Under the Comprehensive Environmental Response, Compensation, and Liability Act (DOE and EPA 1995), which establishes CERCLA non-time-critical removal action (NTCRA) process as an approach for decommissioning. This approach satisfied environmental review requirements, provided for stakeholder involvement, and provided a framework for selecting the decommissioning alternative.

Fluor will submit a CERCLA Removal Action Report to document the cessation of the CERCLA non-time Critical Removal Action for EBR-II. The report documents the decontamination and decommissioning activities that have taken place, the facility conditions at the time of transfer, and current status of institutional controls to prevent or reduce risk from hazardous materials left in place.

EBR-II (MFC-767) has been designated Institutional control site ANL-67, because asbestos and radioactive materials were left within the EBR-II basement when it was grouted. A risk assessment documented the remaining hazardous materials did not present an unacceptable risk, provided that intrusion was controlled into areas where hazardous materials remain. The institutional controls require review for a Notice of Site Disturbance by Fluor of any activities within EBR-II that disrupt the current grout surface.

Institutional Control Site ANL-67 also includes the former location of MFC-795 adjacent on the northeast side of EBR-II. The same rules apply to this location, because both locations are managed as one CERCLA institutional control site.

The institutional control site sign for ANL-67 is located on the outside shell of EBR-II near the MFC-795 location. As these restrictions now apply to the interior of EBR-II with the ending of the non-time critical Removal Action, INL will place an additional sign inside the EBR-II facility.

The next CERCLA 5-year Review (covering years 2015-2019) prepared by Fluor will summarize the EBR-II Removal Action Report and document institutional controls (managed by Fluor) continue to be effective in reducing risk of future exposure.

Refurbishing the EBR-II dome to support programmatic research needs at MFC requires completion of the following activities:

1. Repairing water jet cuts made to the outer shell of the dome in preparation for demolition. Repairs include welding the cuts in the outer steel shell and repairing concrete removed from the inner liner of the shell.
2. Repainting the outer steel shell.
3. Installing lights to illuminate the exterior.
4. Grading and cleaning the grounds around the dome.
5. Constructing a ramp to allow equipment movement through north-east equipment door.
6. Restoring electrical power and interior lighting (temporary and permanent).
7. Installing a reinforced concrete floor in the interior.
8. Repairing access doors.
9. Other general and minor repairs to the dome and surrounding grounds.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Project activities have the potential to contribute to air emissions through the following:

- Generating air pollutants, including but not limited to radionuclides, chemical and combustion emissions. Some activities may involve stationary air emission sources, including stationary internal combustion engines.
- Generating hazardous and radiological emissions, such as by operation of fuel burning equipment, decontamination work, use of maintenance products that contain hazardous constituents, and disturbance of contaminated soils.
- Acquiring and dispositioning chemicals.

- Disturbing asbestos.
- Generating fugitive dust or other fugitive emissions.
- Purchasing, relocating, operating, modifying or maintaining portable air emission sources, including non-road internal combustion engines.

Disturbing Cultural or Biological Resources

Activities included in this EC have the potential to disturb cultural or historical resources as follows:

- Maintaining or repairing facilities, structures, equipment or processes
- Modifying historical buildings or structures

Generating and Managing Waste

Proposed activities have the potential to generate waste from conducting the following activities:

- Maintaining equipment containing or contaminated with PCBs (From equipment manufactured before 1982)
- Modifying or disposing of buildings, structures, or equipment built before 1982 may contain PCBs (paint, caulk, light fixtures, adhesives, ceiling tiles, etc.).
- Disposing asbestos-containing material
- Disturbing asbestos or removing asbestos-containing material
- Other activities that generate waste.

Releasing Contaminants

Activities addressed by this EC have the potential to release contaminants through the following:

- Acquiring, using, storing and dispositioning chemicals
- Managing and dispositioning excess property and materials
- Reporting and cleaning up spills and releases
- Managing elemental lead
- Removing lead from service or from a structure.

Using, Reusing, and Conserving Natural Resources

Activities addressed by this EC have the potential for use, reuse and conservation of natural resources related to the following:

- Generating greenhouse gasses
- Building energy use
- Consuming potable, industrial or irrigation water
- Generating storm water
- Generating landfill waste or construction and demolition wastes
- Generating recyclable materials
- Engaging in sustainable acquisition practices.

SECTION D. Determine Recommended Level of Environmental Review, Identify Reference(s), and State Justification: Identify the applicable categorical exclusion from 10 Code of Federal Regulation (CFR) 1021, Appendix B, give the appropriate justification, and the approval date.

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, or similar requirements of Department of Energy (DOE) or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment or facilities; (3) disturb hazardous substances, pollutants, contaminants, or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources (see 10 CFR 1021). In addition, no extraordinary circumstances related to the proposal exist that would affect the significance of the action. In addition, the action is not "connected" to other action actions (40 CFR 1508.25(a)(1) and is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1608.27(b)(7)).

References: National Environmental Policy Act (NEPA) Implementing Procedures, Final Rule, 10 CFR 1021 Appendix B to Subpart D, Categorical Exclusion B3.6,"Small-scale research and development, laboratory operations, and pilot projects."

Justification: Project activities are consistent with 10 CFR 1021 Appendix B to Subpart D, Categorical Exclusion 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 deployment."

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: 3/13/2019