

DOE-ID NEPA CX DETERMINATION

Idaho National Laboratory

SECTION A. Project Title: Expansion of MFC-789, Engineering Development Laboratory

SECTION B. Project Description and Purpose:

Expansion of MFC-789, the Engineering Development Laboratory, is necessary to generate shop space where rapid development and prototyping of micro-reactor related systems can be performed. Currently, MFC-789, located on the eastern side of the MFC Complex, is an industrial research and mock-up space supporting molten salt research programs. New interest in commissioning micro-reactors at MFC as part of the National Reactor Innovation Center (NRIC) has necessitated additional space for quick and efficient development of reactor-related components in a prototyping environment.

Building additions would consist of two 20-foot bays to the east of the existing building that would maintain the same width as MFC-789 (similar to those additions done in the past that remained the exact same height as the original building). The additional bays will follow suit and will maintain the same height as the current building and will be connected – the existing wall on the expansion side will be fully removed and the bays will simply be added to the same space/floor plan as what already exists. The only difference that will be visible externally is the building will be lengthened. Construction would be similar to that of the existing building with steel frames, metal panels and concrete flooring. The additions would create approximate 1300 square feet of useable floor space for lab work activities and experimentation. A mezzanine would be added to two new bays and existing eastern bay as well to house instrumentation and controls. Modifications will include rerouting some argon lines, modifying the current HVAC system, and possibly removing an existing furnace. Work to be performed will be put to bid and subcontracted to awarded construction firms.

Estimated total lifecycle cost for the expansion project is around \$610,000. The expansion is set to begin initial project activities in February 2021 with closeout and building commissioning in early spring of 2022.

MFC-789 was built in 1959.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Project activities may generate fugitive dust, other fugitive emissions, and chemical and combustion emissions. Project activities will include working with refrigerants and equipment that contain refrigerants.

Discharging to Surface-, Storm-, or Ground Water

N/A

Disturbing Cultural or Biological Resources

MFC-789, built in 1959, is eligible for nomination to the National Register of Historic Places; therefore, a cultural resource review and clearance from the Cultural Resource Management Office (CRMO) is required.

Generating and Managing Waste

Project activities will generate industrial (non-hazardous, non-radioactive) typical construction wastes. Potential waste materials will be evaluated for waste minimization prior to generation, and industrial waste generated during proposed activities will be evaluated for recycle opportunities prior to disposal at the INL Landfill Complex.

Releasing Contaminants

All chemicals utilized by the project would be managed in accordance with laboratory procedures.

Using, Reusing, and Conserving Natural Resources

All material will be reused and/or recycled where economically practicable. All applicable waste will be diverted from disposal in the landfill when possible. Project personnel will use every opportunity to recycle, reuse, and recover materials and divert waste from the landfill when possible. The project will practice sustainable acquisition, as appropriate and practicable, by procuring construction materials that are energy efficient, water efficient, are bio-based in content, environmentally preferable, non-ozone depleting, have recycled content, and are non-toxic or less-toxic alternatives.

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.

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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: 10 CFR 1021, Appendix B to subpart D, items B3.6, "Small-scale research and development, laboratory operations, and pilot projects."

Justification: The proposed R&D activities are consistent with CX 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); 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 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 Anderson, DOE-ID NEPA Compliance Officer on: 03/04/2021