

DOE-ID NEPA CX DETERMINATION

Idaho National Laboratory

SECTION A. Project Title: Materials and Fuels Complex (MFC) Hot Fuels Examination Facility (HFEF) Facility Equipment Upgrades

SECTION B. Project Description and Purpose:

The Hot Fuel Examination Facility (HFEF) at Idaho National Laboratory's (INL's) Materials and Fuels Complex (MFC) is a hot cell complex for preparation and examination of irradiated experiments for a wide variety of programs and process demonstrations. A wide range of remote operations and examinations are performed in the facility's shielded cells and support areas and with facility equipment. Examinations, general-purpose experiment and materials handling, and service equipment can be changed remotely or supplemented in HFEF without major interruptions of operations. Certain facility components are outdated and need to be replaced or updated to support activities in HFEF.

The following activities are included in the scope of this Environmental Checklist (EC):

Visual Examination Machine--The motors and controls for the Visual Examination Machine (VEM) stage are obsolete. The modification of the VEM stage includes system upgrades and addition of eddy current measurement capability. Upgrades to electric motors and replacement of in-cell wiring, electrical cabinet, operator control station and associated equipment. Replacement of cell wall feed-throughs would also occur.

Precision Gamma Scanner--The Precision Gamma Scanner (PGS) magazine support/rotate assemblies would be upgraded to provide a new element support stand with integrated element stabilization capability. This would involve mechanical, electrical and software changes. The magazine rotate of the system is currently non-functional. A new element support stand is required to accommodate commercial nuclear fuel elements for gamma spectrum data collection. New mechanical systems will be powered with new motors provided through PGS stage and gripper motor (x,y,z,phi) upgrades completed in 2010. A new electrical control cabinet would also be installed.

Mechanical Equipment--Mechanical equipment (magazine support/rotate, contact profilometer, bow and length machine, motors) would be replaced on the positioning stage. New electrical feedthroughs and control cabinet would also be installed in the facility. Operator controls would be integrated into a single console with enhanced automated functionality.

Post-Irradiation Examination (PIE) Equipment--Hot cell fixtures and equipment are required to accommodate examination activities at various work stations in HFEF. The proposed action would design and fabricate tools needed in the course of the hot cell activities to support PIE (mill, drill, sorting table with additional space, sample pushout and sorting tools, etc.).

SECTION C. Environmental Aspects or Potential Sources of Impact:

Disturbing Cultural or Biological Resources

HFEF (ANL-785) is eligible for nomination to the National Register of Historic Places. Removal and/or changes of original features may adversely impact this historic property; however, the project activities as described are exempt and may proceed without further cultural resource review. The described project activities fall under exemption 8 (internal reconfiguration of active laboratories) listed in Table 2 (Idaho National Laboratory Cultural Resource Management Office. Idaho National Laboratory Cultural Resource Management Plan. DOE/ID10997, revision 6, Idaho Falls, Idaho: U.S. Department of Energy, Idaho Operations Office, 2016, pg 51).

Generating and Managing Waste

Project activities generate both low-level radioactive waste (personal protective equipment [PPE], wiring, miscellaneous scrap, etc.) and mixed hazardous waste (feedthroughs containing lead shot, electrical/electronics).

Using, Reusing, and Conserving Natural Resources

All materials would be reused and/or recycled where economically practicable. All applicable waste would be diverted from disposal in the landfill where conditions allow.

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

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“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 B1.31 "Installation or relocation of machinery and equipment."

Justification: The proposed activities are consistent with CX B1.31 "Installation or relocation and operation of machinery and equipment (including, but not limited to, laboratory equipment, electronic hardware, manufacturing machinery, maintenance equipment, and health and safety equipment), provided that uses of the installed or relocated items are consistent with the general missions of the receiving structure. Covered actions include modifications to an existing building, within or contiguous to a previously disturbed or developed area, that are necessary for equipment installation and relocation. Such modifications would not appreciably increase the footprint or height of the existing building or have the potential to cause significant changes to the type and magnitude of environmental impacts."

Is the project funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act) Yes No

Approved by Jack Depperschmidt, DOE-ID NEPA Compliance Officer on: 9/21/2016