

DOE-ID NEPA CX DETERMINATION

Idaho National Laboratory

SECTION A. Project Title: Advanced Test Reactor (ATR) Nuclear Instrumentation Replacement Project

SECTION B. Project Description and Purpose:

This proposed action is to replace the ATR plant nuclear instrumentation and control components with functionally equivalent equipment. The replacement components consist of multiple channels with neutron detector drives, cables, conduit, monitor drawers, records, and displays. Correction of legacy issues includes equipment seismic anchorage and installation of additional conduit supports. Activity may require functionally equivalent temporary or permanent modifications to the Reactor Data Acquisition System (RDAS) input interface.

Due to the significance of the ATR simulator in its role of training future operators on ATR controls, equivalent instrument replacements will be performed on the simulator. Replacement parts for the simulator include chart recorders only as there are no detectors or monitors.

Projected waste types to be generated from this activity include the following:

1. Potential polychlorinated biphenyls (PCBs) (older electronic equipment/chambers)
2. Lead solder (electronic equipment)
3. Mixed fission products (MFP) as well U (fission chambers)
4. Hazardous waste as determined through the characterization process (miscellaneous equipment)
5. Potential mercury

This activity may require floor and ceiling penetrations to drill bolts or for conduit.

Project Start Date: Fiscal Year (FY) 2016

Project End Date: FY2017

Project Cost: Approximately \$16M

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Maintenance activities could generate fugitive dust.

Work may result in the disturbance or removal of asbestos.

Disturbing Cultural or Biological Resources

ATR (TRA-670) is eligible for nomination to the National Register of Historic Places and is considered a Category 1 historic property. Removal and/or changes of original features may adversely impact this historic property; however, the nuclear instrumentation replacement project activities as described are exempt and may proceed as described without further cultural resource review. The described project activities fall under exemptions 2 (routine maintenance activities), 6 (safety systems), and 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 may generate a variety of wastes. It is anticipated that the following types of waste could be generated:

- Industrial (non-hazardous, non-radioactive) waste includes typical construction wastes such as boxes, wood, wiring, paper, insulation, and some metals.
- Hazardous wastes have the potential to be generated during maintenance operations on systems or equipment containing hazardous chemicals, or by using hazardous chemicals to clean or decontaminate equipment and systems. Hazardous metal waste (e.g., lead, electronics, brass, metal containing paints, etc.) may also be generated during project activities or by replacement of outdated equipment. Note: Lead has been encountered very infrequently (e.g., shielded cables). There is a potential for mercury in some models of chart recorders.
- Asbestos waste may be generated when performing maintenance activities on equipment or structures with asbestos-containing materials (ACM) such as insulation, gaskets, flanges, walls, roofing, and flooring.
- Polychlorinated Biphenyl (PCB) waste could be generated when performing maintenance associated with pre-1982 equipment/materials such as capacitors, lubricants/dielectric fluids, transformers/bushings, painted surfaces and other electrical equipment/components.

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Releasing Contaminants

Although not anticipated, chemical use has a potential for small air emissions and spills.

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. The project would practice sustainable acquisition.

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 B2.2 "Building and Equipment Instrumentation."

Justification: The proposed activities are consistent with CX B2.2 "Installation of, or improvements to, building and equipment instrumentation (including but not limited to, remote control panels, remote monitoring capability, alarm and surveillance systems, control systems to provide automatic shutdown, fire detection and protection systems, water consumption monitors and flow control systems, announcement and emergency warning systems, criticality and radiation monitors and alarms, and safeguard and security equipment."

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: 6/6/2016