

**DOE-ID NEPA CX DETERMINATION  
Idaho National Laboratory**

**SECTION A. Project Title:** ZPPR Criticality Detector Modification

**SECTION B. Project Description and Purpose:**

The Zero Power Physics Reactor (ZPPR) Criticality Alarm System (CAS) components are many years past their intended design life, and spare parts are no longer available. The facility has experienced 1-2 week outages due to failed detectors. There are currently six IC33 detectors in the vault, six Reuter Stokes detectors in the vault, and two IC33 detectors in the cell. The proposed action is to replace the ZPPR Cell detectors (ANL IC33 detectors) with existing Reuter Stokes detectors. The eight IC33 detectors will be removed from the vault and the cell. Two existing Reuter Stokes detectors will remain in their location in the vault, and two Reuter Stokes detectors will be relocated in the vault. The remaining two Reuter Stokes detectors will be relocated from the vault to the cell to replace the IC33 cell detectors. Conduit and coaxial cable will be replaced with new conduit and cable for the ZPPR vault detectors. The eight ANL IC33 detectors will be dispositioned by Waste Generator Services (WGS).

**SECTION C. Environmental Aspects or Potential Sources of Impact:**

**Disturbing Cultural or Biological Resources**

MFC-776 (ZPPR Reactor Cell) is eligible for nomination to the National Register of Historic Places and is considered a Category 2 historic property. Removal and/or changes of original features may adversely impact this historic property; however, the project activities are exempt and may proceed as described without further cultural resource review. The described project activities fall under exemptions 2 (routine maintenance activities) and 6 (safety systems) 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 would generate industrial waste such as non-hazardous construction waste. All waste will be characterized and dispositioned at the direction of Waste Generator Services (WGS). Scrap metal will be recycled.

**Releasing Contaminants**

Construction chemicals such as marking paint, lubricants, adhesives, paints, etc., would be used during the project. Although not anticipated, spills have the potential to occur.

**Using, Reusing, and Conserving Natural Resources**

Scrap metal will be recycled to the extent practicable. Other materials suitable for recycle would be diverted from landfill disposal when practicable.

**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:** 10 CFR 1021, Appendix B, B2.2 "Building and equipment instrumentation"

**Justification:** Project activities are consistent with 10 CFR 1021, Appendix B, 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 safeguards and security equipment)."

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: 5/08/2017