DOE-ID NEPA CX DETERMINATION
Idaho National Laboratory

CX Posting No.: DOE-ID-INL-21-035

SECTION A. Project Title: Building and Equipment Instrumentation

SECTION B. Project Description and Purpose:

Background

Idaho National Laboratory's (INL's) mission is to discover, demonstrate and secure innovative nuclear energy solutions, other clean energy options, and critical infrastructure. INL activities include nuclear energy and homeland security research, development, and demonstration. Battelle Energy Alliance, LLC, manages and operates INL. Most INL Site buildings and structures are located within developed areas that are typically less than a few square miles and separated from each other by miles of undeveloped land. The U.S. Department of Energy (DOE) controls all land within the INL Site. In addition to INL Site facilities, INL manages and operates leased and DOE-owned laboratories and administrative offices in Idaho Falls.

Purpose and Need

INL needs to manage facilities and property in a safe, secure, cost-effective, and sustainable manner to ensure assets are available, utilized, and in a suitable condition to support efficient mission execution. INL must sustain assets by completing installation or improvements to building and equipment instrumentation activities to assure mission readiness, operational safety, worker health, environmental protection and compliance, security, and property preservation to cost-effectively meet program missions.

Type and Scope of Activities

The proposed action involves installation of, or improvements to building and equipment instrumentation activities covered under DOE Categorical Exclusion (CX) B2.2 that include, but are 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.

Activities include equipment installation and/or modifications of equipment listed above which may include, but are not limited to:

- upgrading, modifying, or replacing equipment
- replacing or adding new wiring or fiber optics
- installing or removing electrical circuits
- anchoring equipment
- adding or removing conduit,
- trenching,
- post-installation testing
- installing or maintaining detection, monitoring, surveillance, alarms, and camera systems
- installing or maintaining on-Site and off-Site communications facilities, such as antennas, radios, and monitoring and data transfer systems

Activities may encounter asbestos or PCB's materials (i.e., caulking, paint, etc.).

A separate checklist will be prepared if a proposed action falls outside of this scope.

DOE has categorically excluded the broad range of activities for building and equipment instrumentation as a single class of actions under 10 CFR Part 1021 Subpart D, Appendix B item B 2.2, "Building and equipment instrumentation" .

In accordance with the limitations imposed by 10 CFR Part 1021, none of the activities addressed in this EC include the following:

- Actions that are part of, or in support of, a larger project that requires either an Environmental Assessment (EA) or an Environmental Impact Statement (EIS)
- Actions that change the scope or mission of a facility
- Actions that cause a significant increase in environmental impacts of a facility
- Actions at EBR-I
- Actions that require a permit or permit modification
- Actions for which a separate categorical exclusion is specified in 10 CFR 1021, Appendix B to Subpart D

- Actions with extraordinary circumstances that affect any sensitive area or natural resources (cultural and historic resources, federally-listed threatened or endangered (T&E) species or their habitat, federally-proposed or candidate species and their habitat, state-listed or state-proposed T&E species, and other federally-protected species such as Bald and Golden eagles and birds protected under the Migratory Bird Treaty Act (MBTA), floodplains and wetlands, areas having a special designation (e.g., national landmarks), special sources of water (such as sole source aquifers), and involve genetically engineered organisms, synthetic biology, noxious weeds and invasive species)
- Activities that disturb:

  1) sagebrush anywhere on the INL Site outside of fenced facility boundaries,

  2) native vegetation within the Sage-Grouse Conservation Area (SGCA), Sagebrush Steppe Ecosystem Reserve, or the area between Specific Manufacturing Capability (SMC) and Test Area North (TAN),

  3) soil in the INL storm water corridor, or

  4) disturb vegetation or soils in the CITRC area (including previously disturbed areas at CITRC) require project specific ECs
- Activities that generate TRU, HLW, GTCC or any waste with no path for disposition
- A substantial upgrade or improvement that would significantly extend the useful life of a facility.
- Activities authorized by Nationwide Permit (NWP) #3 that remove accumulated sediments and debris outside the immediate vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.).

Description of Proposed Activities and Processes

Covered actions include activities that are foreseeably necessary to install or improve building and equipment instrumentation (e.g., the excavation that is necessary to access an underground utility line that requires repair, or communication lines to facilitate equipment access).

Activities that may adversely impact historic resources or resources potentially eligible to the National Register of Historic Places or projects that require mitigation for historical resources require preparation of project specific ECs. Please refer to Table 1 on page 6 for a list of historic properties. Maintenance on EBR-I requires preparation of a separate EC.

Schedule and Timing

INL completes activities evaluated in this EC on an "as-needed" basis. INL bases these determinations on plant experience and good engineering practices.

This ECP will be reviewed and renewed on annual basis.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

The proposed action has the potential to remove or disturb asbestos-containing materials (ACM). Project personnel must submit the quantity of asbestos removed form 450.04 and obtain approval from the INL Asbestos Technical Point of Contact (TPOC).

Project activities have the potential to generate fugitive dust.

Discharging to Surface-, Storm-, or Ground Water

INL generates wastewater including sanitary and industrial wastewater impacted by industrial activities. Installing improvements to water consumption monitors and flow control systems activities would not result in changes to the volumes, types, or amounts of wastewater.

INL performs activities on water systems, including the groundwater water supply system. Water for INL Site operations is piped from water supply wells. Potable water from the water supply wells meets drinking water standards.

- remote monitoring capability,
- alarm and surveillance systems,
- control systems to provide automatic shutdown,
- fire detection and protection systems, and
- water consumption monitors and flow control systems.

Disturbing Cultural or Biological Resources

Project activities performed between April 1 and October 1 have the potential to impact nesting birds. Threats include, but are not limited to, noise, vegetation removal, human activity around nests, lighting, and collisions with windows and other infrastructure. If warranted, a work activity could be postponed, moved, or other restrictions could be developed to protect active migratory bird nests.

Activities may involve soil disturbance.

There are numerous historic properties (i.e. properties eligible for listing on the National Register of Historic Places) located at INL (see Table 1). Removal or changes to original features may adversely affect these historic properties. In addition, activities outside fenced facility boundaries have the potential to impact cultural and historical resources.

Table 1 - List of Historic Properties located at ATR Complex, CFA, CITRC, INTEC, MFC, and TAN/SMC.

Facility Area	Building Number*	Historic Name
CFA		
	CF-601	Warehouse
	CF-633	Ordnance Offices
	CF-638	High Explosives Magazine (Dosimetry Calibration Lab)
	CF-642	Pump House (CFA Well No. 2)
	CF-651	Pump House (CF Well No. 1)
	CF-661	Material Storage Building
	CF-664	Storage Building
	CF-668	Communications Building
	CF-674	Warehouse (Roads & Grounds / Materials Storage)
	CF-676	Storage Building (DOE Equipment Storage)
	CF-685	Bus Depot
	CF-695	Fire Safety Equipment Storage
	CF-697	Equipment Storage
	CF-698	Standards & Calibration Laboratory
	CF-699	Radio & Alarm Shop
INTEC		
	CPP-603	Fuel Receiving and Storage Building
	CPP-604	Waste Treatment Building
	CPP-606	Service Building/Powerhouse
	CPP-618	Tank Farm Measurement and Control Building
	CPP-628	Tank Farm Control House
	CPP-632	Tank Farm Instrument House
	CPP-635	Waste Storage Pipe Manifold Building
	CPP-636	Waste Storage Pipe Manifold Building (Waste Station WM-189-190)
	CPP-639	Blower Building
	CPP-646	Instrument Building for Bin Set II
	CPP-647	Instrument Building for Bin Set III
MFC		
	MFC-720	TREAT Reactor Building

Facility Area	Building Number*	Historic Name
	MFC-721	TREAT Office Building
	MFC-751	Safety Storage Building
	MFC-752	Laboratory and Office Building
	MFC-753	Plant Services Building
	MFC-759	Emergency Entrance/Old Fire House
	MFC-765	Fuel Conditioning Facility
	MFC-765A	FCF Office Annex
	MFC-767	EBR-II Reactor Plant Building
	MFC-768	Power Plant
	MFC-768B	Water Chemistry Laboratory
	MFC-768E	Flammable Material Storage
	MFC-769	Dangerous Material Storage
	MFC-770B	Sodium Components Storage
	MFC-772	EBR II Engineering Laboratory
	MFC-774	ZPPR Support Wing
	MFC-775	ZPPR Vault Work/Equipment Room
	MFC-777	ZPPR Equipment Building
	MFC-780	Laundry Sorting Building (Quality Level A&B Storage Building)
	MFC-781	Material Handling Building
	MFC-782	Machine Shop Building
	MFC-783	Rigging Test Facility
	MFC-784	Advanced Fuels Facility
	MFC-785	Hot Fuel Examination Facility
	MFC-787	Fuel Assembly and Storage Building (Fuels & Applied Science Building)
	MFC-788	EBR II Maintenance Shop
	MFC-789	EBR II Engineering Laboratory
	MFC-789A	Equipment Building
	MFC-790	Interim Contaminated Equipment Building
	MFC-792	ZPPR Mockup Building (SSPSF Control Room)
	MFC-793	Sodium Components Maintenance Shop
CITRC		
	PBF-612	CITRC Control System Research Facility (former SPERT II)
	PBF-613	CITRC Communications Research Facility (former SPERT IV)
TAN/SMC		
	TAN-601	Guardhouse
	TAN-629	ANP Hanger
	TAN-658	Storage Building

Facility Area	Building Number*	Historic Name
ATR/TRA		
	TRA-605	Process Water Building
	TRA-607	Carpenter Shop
	TRA-608	Demineralizer Building
	TRA-609	Steam Plant
	TRA-614	Maintenance Office Building/ Bunkhouse
	TRA-616	Cafeteria
	TRA-620	Guardhouse
	TRA-622	Warehouse
	TRA-636	Warm Waste Effluent Monitor Station
	TRA-641	Gamma Facilities Building
	TRA-649	MTR-Office Building, Wing C
	TRA-652	MTR Office Building, Wing B
	TRA-653	Maintenance Shop
	TRA-660	Advanced Reactivity Measurement Facility
	TRA-662	Storage & Receiving / Machine Shop
	TRA-666	Safety & Tritium Applied Research Facility
	TRA-666A	Tritium Lab
	TRA-667	Health and Safety Building (Dispensary / DOE Building)
	TRA-670	ATR Reactor Building
	TRA-671	ATR Cooling Tower Pump House
*** This list is only effective for activities being completed in CY2021.**		

Generating and Managing Waste

Industrial (non-hazardous, non-radioactive) waste may be generated such as boxes, wood forms, concrete, asphalt, wiring, piping, paper, waste materials (insulation, wood, metal). INL transfers this waste to a certified recycler or a properly permitted solid waste landfill for disposal. Projects characterize and manage soils and environmental media generated during activities in accordance with laboratory procedures. INL has an active program to minimize waste generation. The waste minimization program includes both source reduction and recycling. Waste Minimization and Pollution Prevention Opportunities are also an integral part of the work review process. INL continually considers opportunities for waste minimization and pollution prevention during these activities.

Activities performed inside contaminated areas would generate some radioactive waste. Radiological waste includes anti-contamination clothing, rags, radiation enclosures and barriers, wood, dirt, contaminated materials, and components (e.g., pumps, piping, roofing materials), demolition debris (which may include asphalt and concrete), contaminated filters, and contaminated absorbent used to clean up small spills. INL packages these materials and stores them in on-site storage facilities pending disposal at an authorized and permitted facility. For excavation in an area suspected to be radioactively contaminated, Radiological Control personnel assist in developing specific radiation work permits to minimize the potential for encountering contaminated media.

The CERCLA Technical point of Contact should be contacted to assist with any activities being performed inside a CERCLA Institutional Control Area.

INL manages excavated soils in accordance with laboratory procedures, policies, and applicable regulatory requirements. INL designs excavation activities to minimize waste. To reduce the amount of radioactive waste generated, clean debris is segregated from radioactively contaminated areas and debris. Radioactively contaminated tools are kept in contaminated areas for reuse rather than disposal at the completion of the activity.

Asbestos waste would be sent to a properly permitted solid waste landfill for disposal.

Hazardous Waste - Maintenance activities on equipment containing hazardous materials, such as acids, hazardous and listed solvents, and heavy metals may require management as hazardous waste. INL plans activities and performs maintenance using waste minimizing strategies to limit the generation of hazardous waste. INL sorts, characterizes, treats, and disposes of any hazardous waste in compliance with applicable Resource Conservation and Recovery Act and other waste management regulations.

Mixed Waste- Maintenance activities on equipment containing hazardous materials, such as acids, hazardous and listed solvents, and heavy metals may require management of resultant waste material as mixed waste. INL plans activities and performs maintenance using waste minimizing strategies to limit the generation of mixed waste. INL sorts, characterizes, treats, and disposes of any mixed waste in compliance with applicable Resource Conservation and Recovery Act and other radioactive waste management regulations.

PCB Waste-Maintenance activities on structures or equipment containing PCBs (e.g., pre-1982 equipment and materials such as capacitors, lubricants/dielectric fluids, transformers and bushings, painted surfaces, caulking, joint sealer, ventilation duct gaskets or insulation, and other electrical equipment/components) may require management as PCB waste. INL stores and manages PCB wastes in compliance with applicable federal regulations.

Activities that generate TRU, HLW, GTCC or any waste with no path for disposition are not included in the scope of work for this EC.

Waste Generator Services (WGS) manages all solid waste using approved laboratory procedures.

Releasing Contaminants

Activities use typical construction chemicals such as fuels, lubricants, adhesives, concrete, concrete cure, asphalt, etc INL manages all chemicals in accordance with laboratory procedures.

INL stores petroleum products for maintenance activities (e.g., gasoline or diesel) in on-site storage tanks. These tanks are monitored and inspected in accordance with INL procedures. INL manages petroleum storage and use (both on and off the INL Site) in a manner minimizing environmental impacts. Steps include a documented leak inspection program.

Activities may involve working with PCB-containing or PCB-contaminated equipment (e.g. activities associated with pre-1982 equipment and materials such as capacitors, lubricants/dielectric fluids, transformers and bushings, painted surfaces, caulking, joint sealer, ventilation duct gaskets or insulation and other electrical equipment/components).

Although not anticipated, there is a potential for spills when using chemicals or fueling equipment.

Using, Reusing, and Conserving Natural Resources

INL is committed to protecting the environment and human health. INL aims to comply with environmental laws, regulations, and other requirements that protect the air, water, land, and natural, archeological, and cultural resources potentially affected by routine activities. INL employs the environmental management system (EMS) modeled by the International Organization for Standardization (ISO) Standard 14001 to establish policy, objectives, and targets to reduce environmental impacts and increase operating efficiency through a continuing cycle of planning, implementing, evaluating, and improving processes. The INL Site Sustainability program implements strategies and practices that meet key DOE sustainability goals, including decreasing water use intensity; increasing diversion of construction and demolition waste from the landfill; and reducing greenhouse gas (GHG) emissions.

INL reuses or recycles all materials where economically practicable. INL also diverts all applicable waste from disposal in the landfill where conditions allow. INL practices 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:
10 CFR 1021, Appendix B, B 2.2 Building and Equipment Instrumentation

Justification:
Project activities are consistent with 10 CFR 1021, Appendix B item 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 Anderson, DOE-ID NEPA Compliance Officer on: 04/21/2021