SECTION A. Project Title: EBR-I Maintenance and Operations

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. In addition to INL Site facilities, INL operates leased and DOE-owned laboratories and administrative offices in Idaho Falls.

Among the INL built environment resources is the Experimental Breeder Reactor I (EBR-I), a National Historic Landmark.

Purpose and Need

Federal agencies are required, to the maximum extent possible, to undertake such planning and actions as may be necessary to minimize harm to any National Historic Landmark (36 CFR §800.10). Therefore, actions falling under routine maintenance and operations are subject to review to ensure that such actions will not adversely impact EBR-I or its character-defining features. While potential impacts to this historic property vary by project, the general environmental condition of the property and its associated environmental risks are well-known. Furthermore, such conditions and risks are unlikely to be altered except in exceptional circumstances. Therefore, to streamline environmental reviews for actions occurring at EBR-I, including within the boundaries of the EBR-I NHL and the EBR-I Historic Site (Figure 1), this ECP documents all known environmental conditions, risks, and potential impacts as required by the National Environmental Policy Act (NEPA), exclusive of potential impacts to EBR-I as a cultural resource.

All actions undertaken at EBR-I will be subject to review by the Cultural Resource Management Office (CRMO) as required by the National Historic Preservation Act (NHPA) and implemented through the 2023 Programmatic Agreement among the Department of Energy Idaho Operations Office (DOE-ID), the Idaho State Historic Preservation Office (SHPO), and the Advisory Council on Historic Preservation (ACHP), specifically Stipulations I.B.4 and VII.A.4.

Type and Scope of Activities

The proposed action involves performing preventive, predictive, and corrective maintenance (i.e., repair) on a routine basis to verify that the facility, systems, and equipment at EBR-I are maintained in a condition suitable for their intended use. A separate Environmental Compliance Permit (ECP) will be prepared if a proposed action falls outside of this scope.

Maintenance activities are defined in DOE Order 430.1C as "Work required to preserve property in a condition suitable for its designated purpose including inspection, adjustment, lubrication, cleaning, and selective part replacement of components. It includes preventive and predictive maintenance [adapted from 41 CFR 102-71.20]."

Routine maintenance activities covered under this ECP fall into the following three general categories:

Maintenance—Corrective (i.e., repair), preventive, and predictive maintenance required to maintain buildings, structures, infrastructures, and equipment in a condition suitable for a facility to be used for its designated purpose. Corrective maintenance involves repairing and restoring equipment or components that have failed or are malfunctioning and are not performing their intended function. Predictive maintenance involves periodic monitoring and diagnosis to forecast component degradation so that "as-needed" planned maintenance can be performed prior to equipment failure. Preventive Maintenance (PM) involves periodic and planned actions taken to maintain a piece of equipment within design operating conditions, maintain its service life (i.e., normal operating life), and is performed prior to equipment failure or to prevent equipment failure.

Repair is the act of restoring failed or malfunctioning component, equipment, system, or a facility to its intended function or design condition and includes replacing parts, components, and assemblies. Repair does not include activities directed towards expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater than, its current use (DOE Order 430.1B).

Custodial Services—Activities to preserve facility appearance, working conditions, and sanitation (e.g., cleaning, window washing, lawn mowing, brush removal, trash collection, and snow removal).

Replacement In-Kind—Replacement in-kind is a one-for-one change-out, repair or replacement that is in kind and is not a substantial upgrade or improvement. In-kind replacement includes installing new components to replace outmoded components if the replacement does not result in a significant change in the expected useful life (i.e., normal operating life), design capacity or function of the facility or equipment. Outmoded components are those that are no longer functional and do not meet current needs. Components that may no longer be available or feasible to purchase may be fabricated in facility machine shops.

General Maintenance Activities

Maintenance personnel perform inspections (both visual and remote) to support budgeting and scheduling, maintenance planning, regulatory compliance, and improving plant safety.

Building and Structural Maintenance

Maintenance activities also include repairing/replacing equipment and facility components. Building and structural maintenance at EBR-I may include, but is not limited to, the following activities:

- Repairing or replacing damaged masonry, rain-gutters, fencing, and heat tracing
- Painting and coating indoor and outdoor surfaces (e.g., walls, floors, ceilings, and decks) with paint, epoxy, and other coatings, including surface preparation, such as cleaning, grouting, scraping, sanding, or other methods.
- Removing and installing roofing materials and installing insulating materials, roofing materials, and sealants.
- Repairing or replacing in-kind ceiling tile.
- Replacing and upgrading facility components such as non-historic light fixtures; installing or replacing drinking water dispensers; refurbishing non-historic components such as carpet, paint, tile, and audio and visual equipment.
- Repairing and replacing failed plumbing components.
- Repairing, adjusting, and replacing in-kind door hinges, latches, closures, weatherstripping, locks, handles, etc.
- Repairing and replacing in-kind window components, including UV film, panes, glazing, hinges, latches, weatherstripping, and caulk.

Custodial Services

Custodial services covered by the scope of this EC include, but not limited to, the following:

- Applying approved pesticides, herbicides, and rodenticides.
- Cleaning, housekeeping, and janitorial activities.
- Cleaning storm water drainage systems (e.g., ditches, catch basins, etc.).
- Establishing storage areas within buildings for maintenance tools, equipment, and supplies.
- Grading and repairing drainage and culverts and cleaning up sediment.
- Installing non-skid surfaces on steps, ramps, and other well-traveled areas.
- Maintaining grounds, such as lawn mowing, grass trimming, landscaping, shrub and tree pruning, snow removal, erosion control and soil stabilization.
- Maintaining paved areas, including, but not limited to, parking lots, sidewalks, and roads including crack seal, seal coating, striping and asphalt patching of roads and parking lots. Repaving of roads or parking lots require a separate EC.
- Maintaining parking lot safety devices, such as stops and curbs.
- Removing bird nests that have been verified inactive, pest control, and relocating nuisance wildlife away from facilities in accordance with laboratory procedures (i.e., LWP-14107 and LI-340). Activities that require a permit from state or federal entities require separate ECs.

Monitoring Equipment

INL also maintains and repairs on-Site and off-Site environmental monitoring equipment and stations, which includes, but not limited to, the following:

- Calibrating, repairing, and replacing radiation monitoring equipment, including portal monitors, continuous air monitors, and ambient air monitoring stations.
- Controlling weeds around the stations.
- Repairing or replacing groundwater monitoring wells and sampling equipment.
- Repairing or replacing environmental monitoring sheds, weirs, equipment and sample lines.
- Trimming trees and cutting grass around environmental monitoring stations.
- Repairing or replacing electrical and communication systems at environmental monitoring stations.

Security, Communications, and Data Systems

Maintenance required to maintain security, communication, and data systems, to resolve safety concerns, and to prevent hazards, includes, but is not limited to, the following activities:

- Excavating to repair utility systems within facility fences,
- Replacing and repairing steps, ramps, walkways, safety railings, handrails, guard rails, platforms, fall protection, and frames,
- Installing protective guards on machinery,
- Maintaining and repairing fire protection and detection systems, including, but not limited to, portable and fixed firefighting equipment and sprinkler systems and detection systems,

- Maintaining and replacing freeze protection and related activities, including the removing old insulation and installing new insulation,
- Maintaining and repairing security fences, gates, and lighting systems,
- Maintaining detection, monitoring, surveillance, alarms, and camera systems,
- Maintaining on-Site and off-Site communications facilities, such as antennas, radios, and monitoring and data transfer systems,
- Repairing and testing emergency equipment (e.g., generators),
- and Routine decontamination and spill clean-up actions.

Mechanical and Electrical Systems

Maintaining electrical Mechanical/Electrical Systems, includes, but is not limited to, maintaining and repairing the following:

- Electrical system component replacement, or installation and rewiring conduit, junctions, switch and receptacle boxes; rerouting and minor additions of conduit, wire, cable, control panels, boxes and receptacles (i.e., minor additions for 480-volt system or less); placing new wire in existing conduit; installing conduit supports to facilitate access and maintenance.
- Repair or replacement of pump motors, manipulators, blower motors, motor starters, starter control systems, and switchgear.
- Repair or replacement of regular and emergency lighting.
- Repair or replacement of facility breakers, switches, disconnects, transformers, and insulators.
- Upgrading telecommunication capabilities, including fiber optic cable and network switches to support user applications and allow for internet connections.

Maintaining and repairing electrical systems for this EC does not cover replacing power poles or anchors or structures or activities associated with test and treat activities for the INL power grid.

Water Systems

Maintaining wastewater treatment facilities and other water systems includes, but not limited to, the following efforts**:**

- Inspecting, cleaning, and repairing wells, manholes, sewer lines, traps, treatment process and collection tanks and chambers, pipe clean-outs, and septic system components.
- Maintaining and repairing sewage treatment plants, storm water, and wastewater treatment facilities, including, but not limited to:
- Adding chemicals to control wastewater quality (e.g., pH)
- Plant drainage (e.g., foundation under-drains)
- Process and effluent monitoring equipment
- Sanitary wastewater holding tanks
- Storm water drainage systems and discharge outfalls
- Treatment and collection/holding basins, vessels, tanks, chambers, and pits
- Wastewater holding lagoons and lagoon discharge system
- Groundwater Monitoring Systems
- Groundwater Water Wells and Supply System
- Water Treatment Systems, Chemical Addition
- Supply System/Equipment (Sinks, Showers, Toilets, Hoses, Hydrants)
- Sampling and Monitoring Equipment
- Well Pumps and Pump Houses
- Oil/Water Separator
- Ion-Exchange Columns
- Sanitary sewers, and Sewage Collection and Holding Tanks

Operational Activities

Operational activities are those activities undertaken to improve comfort and safety of INL employees and guests while in the building. Such activities may include, but are not limited to:

- Replacing portable air conditioning units in the upstairs classroom and the intern office.

- Reconfiguring free-standing furnishings as needed.
- Updating, relocating, and replacing in whole or in part interpretive signs and displays.
- Updating, relocating, and replacing directional signage.
- Replacing non-historic light bulbs.
- Replacing non-historic furnishings in-kind as needed.
- Excessing non-historic furnishings as needed.
- Placing and relocating free-standing safety barriers as needed.

Bounding Conditions

Such modifications would not have the potential to cause significant changes to the type and magnitude of environmental impacts.

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

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

In accordance with the limitations imposed by 10 CFR Part 1021, none of the activities addressed in this Environmental Compliance Permit (ECP) 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 that require a permit or permit modification

· 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) or the Sagebrush Steppe Ecosystem Reserve, or

3) Soil in the INL storm water corridor.

· A substantial upgrade or improvement that would significantly extend the useful life of a facility.

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.

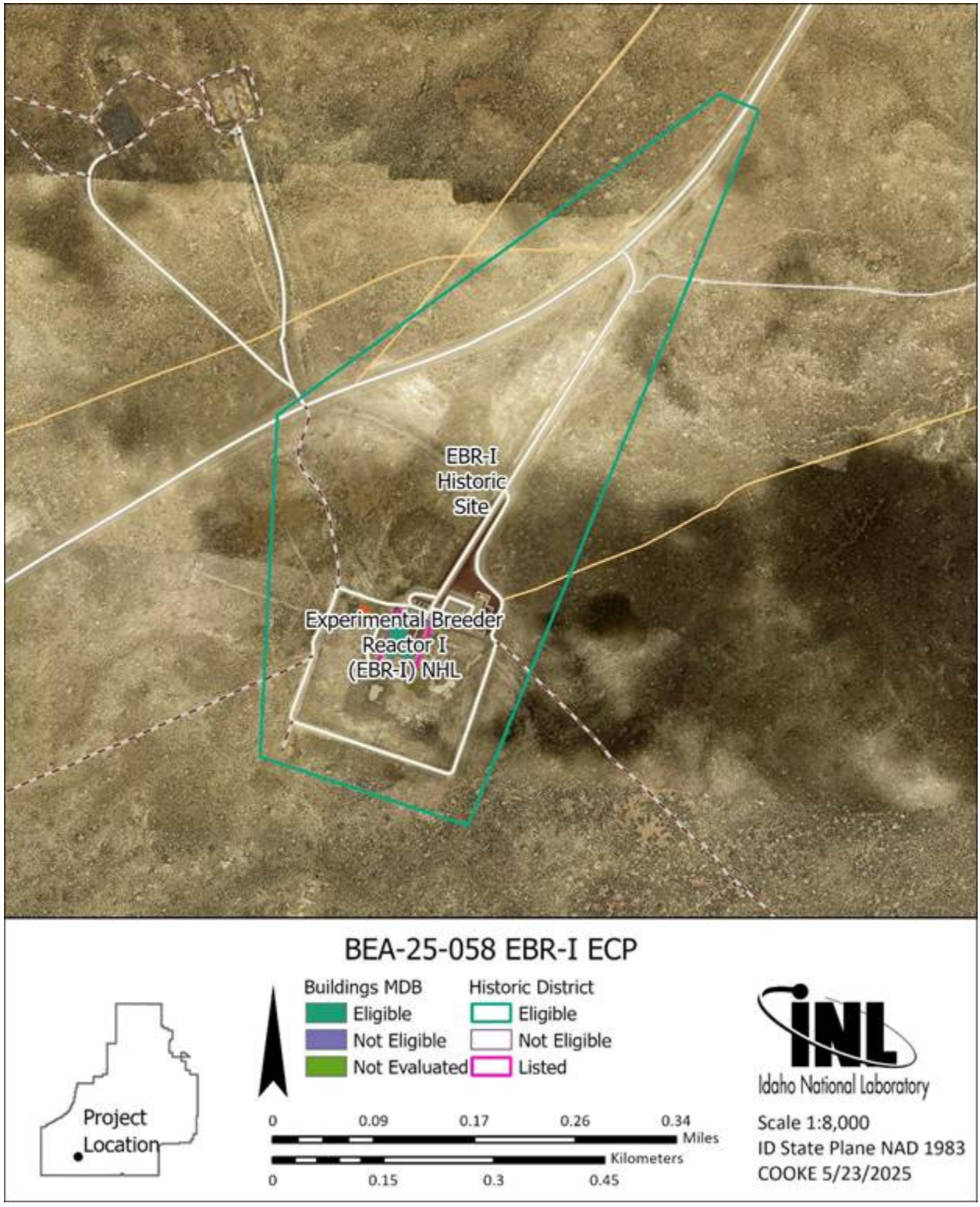

Figure 1. Bounds of EBR-I National Historic Landmark (pink) and EBR-I Historic Site (green).

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

NA

Discharging to Surface-, Storm-, or Ground Water

NA

Disturbing Cultural or Biological Resources

There is the potential for this work to impact vegetation and for project personnel to interact with various wildlife species. A Biological Resource Review will be arranged within two weeks prior to the initiation of any activities that might disturb soil or vegetation and again following completion of project activities. A nesting bird survey is included with the Biological Resource Review for actions occurring between April 1 - October 1 per compliance with the Migratory Bird Treaty Act. Bat surveys are also included with the Biological Resource Review in accordance with the INL Bat Protection Plan.

A Section 106 cultural review cannot be completed at this time as no specific activity is proposed.

Generating and Managing Waste

When wastes are generated, how they are disposed can adversely affect the environment. Managing wastes appropriately and responsibly and implementing recycling or reuse practices, where feasible, during project activities can reduce the potential impact on the environment.

Polychlorinated Biphenyl (PCB) waste could be generated when performing maintenance on, replacing, or performing D&D on equipment manufactured before 1982. Such equipment and associated materials include but are not limited to capacitors, lubricants/dielectric fluids, transformers and bushings, light fixtures, electric motors, pumps, voltage regulators, other equipment/components that contain oil, and oil associated with electrical conduit/cable.

Polychlorinated Biphenyl (PCB) waste could be generated when work activities involve structures or buildings built before 1982 (e.g., painted surfaces, caulking, adhesives, rubber gaskets, joint sealer, cable/wire insulation, ventilation duct gaskets or insulation).

Releasing Contaminants

When chemicals are used during the project there is the potential for spills that could impact the environment (air, water, soil).

Using, Reusing, and Conserving Natural Resources

Project description indicates materials will need to be purchased or used that require sourcing materials from the environment. Being conscientious about the types of materials used could reduce the impact to our natural resources.

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.

References: B1.3 "Routine maintenance"

For the DOE procedures regarding categorical exclusions, including the full text of each categorical exclusion, see 10 CFR 1021.102 and Appendix B to 10 CFR Part 1021, and also Section 5.4 (Applying one or more categorical exclusions to a proposal) and Appendices B and C of DOE's National Environmental Policy Act Implementing Procedures (June 30, 2025). Requirements and guidance in 10 CFR 1021.102 and DOE's NEPA Implementing Procedures: (See full text in regulation and in Implementing Procedures)

The proposal fits within a class of actions that is listed in Appendix B to 10 CFR Part 1021 or Appendix B and C of DOE's NEPA Implementing Procedures (June 30, 2025).To fit within the classes of actions listed in Appendix B to 10 CFR Part 1021, or Appendix B of DOE's NEPA Implementing Procedures, a proposal must satisfy the conditions that are integral elements of the classes of actions in Appendix B of both 10 CFR Part 1021 and DOE's NEPA Implementing Procedures.

There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal. DOE or an applicant may modify the proposal to avoid reasonably foreseeable adverse significant effects such that the categorical exclusion would apply.

The proposal has not been segmented to meet the definition of a categorical exclusion.

[Note: For proposals that fit within the categorical exclusions listed in Appendix C of DOE's NEPA Implementing Procedures, see DOE's notice of adoption for the subject Appendix C categorical exclusion for additional considerations. DOE notices of adoption for other agency categorical exclusions may be found on DOE's Section 109 webpage.]

Based on my review of the proposed action, as NEPA Compliance Officer, I have determined that the proposed action fits within the specified class(es) of action, the other requirements and guidance set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

Approved by Robert Douglas Herzog, DOE-ID NEPA Compliance Officer on: 6/25/2025