

DOE-ID NEPA CX DETERMINATION

Idaho National Laboratory

SECTION A. Project Title: Primary Coolant System Refurbishment and Monorail Upgrade

SECTION B. Project Description and Purpose:

The proposed activity of this EC comprises two connected actions:

- Replace several aging components of the ATR primary coolant system (PCS), and
- Upgrade the monorail located in the heat exchanger area (HEA).

The PCS is one main coolant loop composed of the reactor vessel, heat exchangers, primary coolant pumps (PCPs), emergency coolant pumps (ECPs), and associated piping and valves. The PCS includes a surge tank and surge line, a degassing and pressurizing system, pressure relief and safety valves, and instrumentation necessary for operational control and emergency response. Several of the components are nearing end-of-life and need to be replaced.

The PCS refurbishment includes the replacing the following components:

- pump seals on the primary coolant pumps rotating elements
- discharge check valves
- inspection ports in the body of the check valves
- isolation valves
- several other key check valves, including the primary coolant pump (PCP) check valves

To be able to replace the PCP check valves, the monorail system for the ATR heat exchanger area (HEA) needs to be upgraded. The monorail system consists of two out-of-service monorails that need to be redesigned to increase the lifting capacity and range of motion required for the PCP check valve replacement. Currently, there is no active equipment to move items/material between the upper mezzanine and the lower level besides the personnel stairway which cannot accommodate large or heavy equipment in the HEA.

The monorail system upgrade scope includes the removal of the stairway along the East-West path of the monorails to improve equipment handling clearance. The stairway is no longer in use and is out of service due to safety concerns. In addition, either guardrails or gates will be installed along the extent of the HEA mezzanine to protect personnel and establish a path for material handling.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Fugitive emissions resulting from cutting/grinding/welding are expected. This activity will not involve the construction of a new stationary emission source. While project activities will be conducted in a rad area, no airborne radiological emissions will result from the activities.

Asbestos may be released when performing maintenance activities on equipment or structures with asbestos-containing materials (ACM) such as insulation, gaskets, flanges, walls, roofing, and flooring.

Disturbing Cultural or Biological Resources

TRA-670 is considered a Category 1 historic property and is eligible for nomination to the National Register of Historic Places. A cultural resource review has been completed for this project scope, and it has been determined that there are no adverse impacts associated with project activities.

Generating and Managing Waste

It is anticipated that the following types of waste will likely be generated during project activities:

- Industrial (non-hazardous, non-radioactive) waste includes typical maintenance wastes such as boxes, wood, wiring, paper, insulation, and some metals.
- Project activities have the potential to produce LLW/Mixed waste.
- 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 maintenance work or by replacement of outdated equipment. Note: Lead has been encountered very infrequently (e.g., shielded cables).

• 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

Project activities will involve the use of various chemicals associated with construction and decontamination. Although not anticipated, the use of these chemicals has a potential for small air emissions and spills.

Using, Reusing, and Conserving Natural Resources

All materials for project activities will be reused and/or recycled where economically practicable. All applicable waste would be diverted from disposal in the landfill where conditions allow. The project will 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: 10 CFR 1021, Appendix B to subpart D, item B1.31 "Installation and Relocation of Machinery and Equipment" and B1.3 "Routine Maintenance"

Justification: Project activities are consistent with 10 CFR 1021, Appendix B, item 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."

In addition, project activities are consistent with 10 CFR 1021, Appendix B1.3, "Routine maintenance activities and custodial services for buildings, structures, rights-of-way, infrastructures (including, but not limited to, pathways, roads, and railroads), vehicles and equipment, and localized vegetation and pest control, during which operations may be suspended and resumed, provided that the activities would be conducted in a manner in accordance with applicable requirements. Custodial services are activities to preserve facility appearance, working conditions, and sanitation (such as cleaning, window washing, lawn mowing, trash collection, painting, and snow removal). Routine maintenance activities, corrective (that is, repair), preventive, and predictive, are required to maintain and preserve buildings, structures, infrastructures, and equipment in a condition suitable for a facility to be used for its designated purpose. Such maintenance may occur as a result of severe weather (such as hurricanes, floods, and tornados), wildfires, and other such events. Routine maintenance may result in replacement to the extent that replacement is in-kind and is not a substantial upgrade or improvement. In-kind replacement includes installation of new components to replace outmoded components, provided that the replacement does not result in a significant change in the expected useful life, design capacity, or function of the facility. Routine maintenance does not include replacement of a major component that significantly extends the originally intended useful life of a facility (for example, it does not include the replacement of a reactor vessel near the end of its useful life). Routine maintenance activities include, but are not limited to:

- (a) Repair or replacement of facility equipment, such as lathes, mills, pumps, and presses;
- (b) Door and window repair or replacement;
- (c) Wall, ceiling, or floor repair or replacement;
- (d) Reroofing;
- (e) Plumbing, electrical utility, lighting, and telephone service repair or replacement;
- (f) Routine replacement of high-efficiency particulate air filters;
- (g) Inspection and/or treatment of currently installed utility poles;
- (h) Repair of road embankments;
- (i) Repair or replacement of fire protection sprinkler systems;
- (j) Road and parking area resurfacing, including construction of temporary access to facilitate resurfacing, and scraping and grading of unpaved surfaces;
- (k) Erosion control and soil stabilization measures (such as reseeding, gabions, grading, and revegetation);
- (l) Surveillance and maintenance of surplus facilities in accordance with DOE Order 435.1, "Radioactive Waste Management," or its successor;
- (m) Repair and maintenance of transmission facilities, such as replacement of conductors of the same nominal voltage, poles, circuit breakers, transformers, capacitors, crossarms, insulators, and downed powerlines, in accordance, where appropriate, with 40 CFR part 761 (Polychlorinated Biphenyls Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions) or its successor;

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- (n) Routine testing and calibration of facility components, subsystems, or portable equipment (such as control valves, in-core monitoring devices, transformers, capacitors, monitoring wells, lysimeters, weather stations, and flumes);
- (o) Routine decontamination of the surfaces of equipment, rooms, hot cells, or other interior surfaces of buildings (by such activities as wiping with rags, using strippable latex, and minor vacuuming), and removal of contaminated intact equipment and other material (not including spent nuclear fuel or special nuclear material in nuclear reactors); and
- (p) Removal of debris."

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: 12/5/19