

DOE-ID NEPA CX DETERMINATION Idaho National Laboratory

SECTION A. Project Title: Advanced Test Reactor Complex Excess Facilities/Structures Deactivation and Demolition

SECTION B. Project Description and Purpose:
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The purpose of the proposed action is to deactivate, decontaminate, and demolish (DD&D) surplus vacant, inactivated or soon to be inactivated facilities and structures to reduce lifecycle costs associated with surveillance and maintenance. The proposed action would return the locations to near original condition. There is limited risk to site personnel posed by remaining hazards within the buildings and structures. Principal hazards are asbestos, lead-based paint, PCBs, small quantities of hazardous materials and waste, confined spaces, and possible residual radiological contamination. The proposed demolition activities will not include on-site construction activities of a stationary emissions source.

The proposed action would DD&D the buildings and structures located at the Idaho National Laboratory's (INL's) Advanced Test Reactor (ATR) Complex listed in the following table:

Table 1. Facilities Proposed for DD&D at ATR Complex

Facility	Description	Capacity
TRA-673	Rx Mockup	1,188 sq. ft.
N/A	Carpenter Shop Storage Shed	400 sq. ft.
TRA-731B	Caustic Storage Tank	10,800 Gal
TRA-731C	Caustic Storage Tank	10,800 Gal
TRA-731D	Acid Storage Tank	10,800 Gal
TRA-731E	Acid Storage Tank	10,800 Gal
TRA-708B	Potable Water Storage Tank	20,000 Gal
TRA-708C	Regeneration Neutralization Tank	30,000 Gal
TRA-627	Diesel Oil Pumphouse	693 sq. ft.
TRA-727A	Fuel Oil Storage Tank	221, 456 Gal
TRA-727B	Fuel Oil Storage Tank	221, 456 Gal
TRA-727C	Diesel Oil Storage Tank	30, 000 Gal
TRA-727D	Diesel Oil Storage Tank	91, 896 Gal
TRA-775	Diesel Oil Storage Tank	35,000 Gal
TRA-607	Carpenter Shop	2,200 sq. ft.
TRA-622	Waste Segregation Area	1,100 sq. ft.
TRA-667	Dispensary / DOE Office Building	4,400 sq. ft.
TRA-1618	Quonset Hut	540 sq. ft.
TRA-1619	Quonset Hut	540 sq. ft.
TRA-1620	Quonset Hut	540 sq. ft.
TRA-1622	Quonset Hut	540 sq. ft.
TRA-1623	Quonset Hut	540 sq. ft.
TRA-1624	Quonset Hut	540 sq. ft.
TRA-1632	Quonset Hut	540 sq. ft.
TRA-1633	Quonset Hut	540 sq. ft.
TRA-783	MTR Working Reservoir Pipe Pit	100 sq. ft.
TRA-617	Concrete Pad	24,000 sq.ft.
TRA-620	Security Office Building	2,030 sq. ft.
TRA-609	Boiler Room	N/A
TRA-609	Generator	N/A

At present, the removal of the TRA-617 concrete waste handling pad is uncertain. It is included in this scope of work, because DD&D is anticipated if and when a new waste handling location is proposed for replacement. This scope of work does not include construction or relocation of waste handling facilities or areas.

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After World War II, the INL Site was designated as a nuclear test site, and the buildings identified above were built to support the post war mission. The area now known as the ATR Complex, was developed to house the first reactor built expressly for testing reactor core and fuel materials, the Materials Test Reactor (MTR). Experiments conducted at MTR influenced the choice of fuel elements and core structural materials for every reactor constructed in the United States since MTR startup. The Engineering Test Reactor (ETR) was completed in 1957 at the ATR Complex, and, at the time of initial operation, ETR was the largest and most technically advanced materials test reactor in the world. Construction on the Advanced Test Reactor (ATR) began in 1961, and at that time it was the largest single construction project ever undertaken in the State of Idaho. Located approximately 200 yards north of the old MTR reactor building, ATR began operation in 1967. The ETR and MTR have been demolished. The ATR remains in operation.

The project includes the demolition of ATR Complex facilities constructed during the INL's Historic Period of Significance (1942-1970) which are eligible for listing on the National Register of Historic Places. Table 2 lists the buildings eligible for listing on the National Register of Historic Places.

Table 2. Facilities Proposed for DD&D that are Eligible for the National Register of Historic Places.

Facility	Description	Capacity	Property Type
TRA-607	Carpenter Shop	2,200 sq. ft.	Category 3
TRA-622	Waste Segregation Area	1,100 sq. ft.	Category 3
TRA-667	Dispensary / DOE Office Building	4,400 sq. ft.	Category 3
TRA-620	Security Office Building	2,030 sq. ft.	Category 3
TRA-609	Boiler Room	N/A	Category 3
TRA-609	Generator	N/A	Category 3
TRA-673	Rx Mockup	1,188 sq. ft.	Category 3

The proposed action performs the following activities:

- Characterize facilities, including waste stream determinations and project development.
- Prepare project sites, including mobilization and staging of equipment and trailers, installation of electrical connections, and surface improvements, as necessary.
- Isolate and/or remove building utilities, including underground piping and utility lines, potable water, firewater, sewer, electrical, communication, ventilation, life safety, and steam lines. Minor re-routes of utilities may be necessary; major re-routes would be addressed separately.
- Remove and manage all radiological contamination.
- Remove remaining building equipment, such as pumps, tanks, boilers, light fixtures, electrical panels and switch boxes, appliances, and cabinets.
- Remove entire building structures, including concrete footers/piers to 3 ft below grade, wooden structural components, walls, structural steel, and roofing. Below grade structures and intact concrete slabs will remain in place if deemed appropriate.
- Dispose and/or recycle/reuse all removed building components and equipment when practical or feasible.
- Grade the site to match the surrounding contour and ground cover (such as lawn, gravel, or native vegetation) and control wind and water erosion.

Project personnel do not expect to take soil samples, unless stains, unfamiliar odors, or other signs of a spill or contamination are present during deactivation and demolition (D&D).

Collection of samples for chemical and radiological analyses would be performed to provide data necessary to minimize health and safety risk to D&D project workers and for developing and completing hazardous waste determinations for waste dispositions. Off-Site laboratories may be used to perform analyses of samples collected.

The schedule for completing these activities is dependent upon the funding made available annually.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Project activities may generate fugitive dust as the result of structural demolition, soil disturbance, and excavation activities. The limited nature of radiological contamination present means there would be a very low probability of any radiological emissions from such sources. Combustion equipment such as generators, portable heaters, ventilation equipment, and heavy equipment fueled with diesel would be used during D&D operations. The proposed demolition activities will not include on-site construction activities of an emissions unit which are of permanent nature.

There is a possibility that materials containing asbestos could be disturbed. All work on asbestos containing building materials would be performed by properly trained personnel. If the scope of work specified in the work package identifies an amount of regulated asbestos-containing material (RACM) to be removed that equals or exceeds the threshold quantity (260 linear feet on pipes / 160 square feet on other facility components / 35 cubic feet on

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facility components where the length or area could not be measured previously) specified in 40 Code of Federal Regulation (CFR) 61.145, contact the Asbestos Coordinator and provide the necessary information for completion of a 10-Day Demolition or Renovation Notification. Ten-day notifications are required for all demolitions, even if asbestos is absent. Examples of asbestos containing materials that may remain include floor tiles, mastics, insulation within fire doors, roofing materials, and piping gaskets. Project personnel will properly manage RACM in compliance with the asbestos National Emission Standard for Hazardous Air Pollutant (NESHAP) regulations during removal, transport, and disposal. Instructions provided in Laboratory-Wide Procedure (LWP)-8000 Section 4.3 will be implemented where applicable.

Discharging to Surface-, Storm-, or Ground Water

The project would involve excavation and potential disruption of existing drainage patterns. Prior to initiating any activity that could cause contamination of a drinking water system, such as isolating components of the drinking water system and while using drinking water for dust suppression, DD&D will consider protection of wells and the potable water supply.

The following buildings have injection wells that must be decommissioned in accordance with Idaho Department of Water Resources (IDWR) requirements:

- TRA-609 - Injection wells 29-TRA, 30-TRA, and 31-TRA
- TRA-727A - Injection well 19-TRA
- TRA-727B - Injection well 20-TRA
- TRA-667 - Injection well 15-TRA
- TRA-673 - Injection well 7-TRA

Shallow injection wells are evaluated under CERCLA to determine the need for remediation. The shallow injection wells listed above have been through the CERCLA evaluation process. Newly discovered shallow injection wells should be considered for evaluation.

Each building proposed for D&D must be evaluated to verify no other injection wells need to be decommissioned. This evaluation should be performed by the building engineer reviewing facility drawings. Newly discovered shallow injection wells should be considered for CERCLA evaluation.

Disturbing Cultural or Biological Resources

Demolition of these properties must be mitigated. Mitigation for Category 2 Properties requires photographs of facility interior, when possible, and exterior with large-format, archivally processed, black-and-white film. Photographs must include one photograph of each side of the building or structure, oblique photographs showing the relationship of the building or structure to associated buildings or structures or landscape, and interior photographs that illustrate historic features. The photographs must be preserved along with architectural and engineering drawings that depict elevations, sections, details, and historic features; and with available historic photographs of construction, manufacture, and other activities or experiments, when possible. When a Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) study is required for the key building or structure in a complex, these photographs and other documents will become part of the study.

Mitigation for Category 3 historic properties, as described in the INL CRMP, requires reconnaissance-level, high quality digital photo documentation and completion of an Idaho Historic Sites Inventory (IHSI) form for each property (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.166). The photo documentation must be completed and received by the INL Cultural Resource Management Office (CRMO) prior to commencement of work.

Generating and Managing Waste

The project has the potential to generate hazardous or mixed waste, including components and materials that contain lead, cadmium, and mercury, such as fusible links (sprinkler heads), lead packing on piping, mercury switches, and fluorescent lamps.

The proposed action also has the potential to generate industrial waste such as concrete and structural steel, wood framing, gypsum board, and scrap metal.

The project will generate asbestos containing waste, and some facilities could contain residual radiological contamination (both fixed and loose).

Because of the age of the buildings, polychlorinated biphenyls (PCBs) containing waste also has the potential to be generated from painted surfaces, wiring, electrical cable insulation, light ballasts, contaminated fixtures, and hydraulic and dielectric fluids. PCBs may also be present in waste residues within tanks, pumps, piping, floor trenches, sumps, and other components.

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Releasing Contaminants

Project activities have the potential to release contaminants from asbestos removal and demolition, chemical use, and PCB contaminated equipment and facility components.

Typical construction chemicals such as fuels, lubricants, adhesives, etc. will be used. All chemicals utilized by this activity will be managed in accordance with laboratory procedures. Although not anticipated, there is a potential for spills when using chemicals or fueling equipment. In the event of a spill, notify facility PEL. If the PEL cannot be contacted, report the release to the Spill Notification Team (208-241-6400). Clean up the spill and turn over spill cleanup materials to WGS.

Using, Reusing, and Conserving Natural Resources

DD&D activities require the use of various chemicals, including fuels (gasoline and diesel), sealants, adhesives, fixatives, and paints. Project activities remove building structural components, including lead and equipment.

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 B1.23 "Demolition and disposal of buildings."

Justification: Project activities are consistent with 10 CFR Appendix B to Subpart D, Categorical Exclusion B1.23 "Demolition and subsequent disposal of buildings, equipment, and support structures (including, but not limited to, smoke stacks and parking lot surfaces), provided that there would be no potential for release of substances at a level, or in a form, that could pose a threat to public health or the environment."

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: 8/22/2018