

# DOE-ID NEPA CX DETERMINATION

## Idaho National Laboratory

**SECTION A. Project Title:** Advanced Test Reactor (ATR) Transition to Commercial Power

**SECTION B. Project Description:**

In order to improve reliability and availability of the Advanced Test Reactor (ATR), to exempt ATR from compliance with 40 CFR, Subpart ZZZZ emission standards, and to reduce the carbon footprint at the Idaho National Laboratory (INL) and reduce the amount of diesel consumed at ATR Complex in support of INL sustainability goals, the INL proposes to transition the ATR to 100% commercial power supply during normal operation. To support the transition, INL would also install a 30 minute battery backed uninterruptible power supply (UPS) for the ATR 670-E-9 electrical bus. The incorporation of a 30 minute battery backed UPS would eliminate the current need for a continuously running diesel generator to supply the critical loads on the 670-E-9 electrical bus. In addition, these facility modifications would result in an approximate 54% reduction of the carbon footprint at the INL and reduce the amount of diesel consumed at ATR Complex by about 250,000 gallons/year.

The proposed action would include the procurement and installation of a 480 V safety related uninterruptible power supply(s) [UPS(s)] that, on loss of commercial power, would continue to supply electrical power to the 670-E-9 diesel bus for a duration of 30 minutes. The UPS(s) would be backed by the existing quick-start diesel generator (TRA-674-M-6). The current TRA-670-M-42 and TRA-670-M-43 continuously running diesel generators would be maintained for standby emergency service in the event that the TRA-674-M-6 diesel generator does not start or the UPS(s) is not operable. The proposed UPS(s) would supply a total of 750 kVA of power to the 670-E-9 electrical bus and would include a sufficient quantity of vented lead acid batteries to supply 30 minutes of power at the rated capacity.

The proposed action would include the following activities:

- Installation of a safety-related UPS(s) within the lay-down area (Rm. # 143) of the TRA-670 building
- Installation of a new 4160/480V transformer located outside of the TRA-670 building
- Installation of new electrical distribution cabling to connect the new system to the TRA-670 electrical feed and the 670-E-9 bus.

Two options are currently being considered for locating the new batteries and battery racks. These options are installation in the TRA-670 reactor building or installation in the TRA-676 building north of TRA-670. A general description of the activities included in each option are:

**TRA-670 Option**

- The construction of two separate Performance Category (PC)-4 concrete block battery rooms within the lay-down area of TRA-670
- Installation of battery racks and vented lead acid batteries within the new battery rooms
- Installation of heating, ventilation, air conditioning, hydrogen detection, smoke detection equipment, and fire sprinkler suppression equipment for the new battery rooms.

**TRA-676 Option**

- Demolition of the existing 4 inch thick concrete floor.
- Installation of a new engineered concrete floor.
- Relocation of the exercise equipment currently residing in the TRA-676 building to another ATR Complex building or new mobile building.
- Installation of a new fire water line to the TRA-676 building. This would require excavation from an existing fire water line north of the building. The total length of excavation and new fire water line will be between 40 and 80 feet.
- Installation of structural steel to upgrade the building to meet PC-4 natural phenomenon hazard standards.
- Construction of new steel framing/gypsum board walls to isolate the batteries from the balance of the building.
- Installation of battery racks and vented lead acid batteries within the new battery rooms.
- Installation of heating, ventilation, air conditioning, hydrogen detection, smoke detection equipment, and fire sprinkler suppression equipment for the new battery rooms.

Estimated Start Date: 10/29/12

Estimated Finish Date: 05/03/15

Estimated Cost: \$12M.

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

**Air Emissions** - Air emissions will be managed in accordance with applicable regulations. If the engines are classified as continuous run, emissions controls will be installed to comply with applicable standards. IDAPA 58.01.01 Section 201 states that no owner or operator of a stationary air emission source may commence construction or modification of any stationary source, facility, major facility, or major modification without first obtaining a permit to construct. All air permits and/or regulatory agreements would be negotiated and approved by the applicable regulatory agency, prior to construction and modifications associated with the project.

There is a possibility for disturbance of asbestos containing building materials. All asbestos work must be conducted by properly trained personnel using appropriate abatement methods. 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 facility components where the length or area could not be measured previously) specified in 40 CFR 61.145, contact the Asbestos Coordinator and provide the necessary information for completion of a 10-Day Demolition or Renovation Notification. Instructions provided in LWP-8000 Section 4.3 will be implemented where applicable.

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**Disturbing Cultural / Biological Resources** - TRA-670 is eligible for nomination to the National Register of Historic Places. Without proper mitigation, removal of original features may adversely impact this historic property. Prior to beginning work, obtain cultural/historical resource review by contacting Julie Braun (Williams) (526-0926). Approval must be demonstrated by written communication from these organizations prior to beginning work, and any instructions contained in the review must be followed.

**Generating and Managing Waste** - The project would generate construction and industrial waste, including PPE, cleaning wipes, packaging material, etc., that has the potential to contain PCBs, and/or radioactive materials. All waste generated from this activity would be managed in accordance with laboratory procedure. Pollution prevention would be implemented where economically practicable to reduce the volume of waste generated. All waste generated would be transferred to WGS for appropriate disposition.

**Releasing Contaminants** - All chemicals utilized by this activity would be managed in accordance with company procedure. There is also a possibility for PCB contamination.

**Using, Reusing, and Conserving Natural Resources** - All applicable waste will be diverted from disposal in the landfill when possible. Project personnel will use every opportunity to recycle, reuse, and recover materials and divert waste from the landfill when possible. New equipment will meet either the Energy Star or SNAP requirements as appropriate (see <http://www.sftool.gov/GreenProcurement/ProductCategory/14>). In addition, the project will practice sustainable acquisition, as appropriate and practicable, by procuring construction materials that are energy efficient, water efficient, are bio-based in content, environmentally preferable, non-ozone depleting, have recycled content, or are non-toxic or less-toxic alternatives.

<b>SECTION D. Determine the Recommended Level of Environmental Review (or Documentation) and Reference(s): Identify the applicable categorical exclusion from 10 CFR 1021, Appendix B, give the appropriate justification, and the approval date.</b>
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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 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 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 which would affect the significance of the action, and the action is not "connected" nor "related" (40 CFR 1508.25(a)(1) and (2), respectively) to other actions with potentially or cumulatively significant impacts.

**References:** National Environmental Policy Act (NEPA) Implementing Procedures, Final Rule, 10 CFR 1021, Appendix B to Subpart D, Categorical Exclusion B2.5 "Facility safety and environmental improvements"

**Justification:** "Safety and environmental improvements of a facility (including, but not limited to, replacement and upgrade of facility components) that do not result in a significant change in the expected useful life, design capacity, or function of the facility and during which operations may be suspended and then resumed. Improvements include, but are not limited to, replacement/upgrade of control valves, in-core monitoring devices, facility air filtration systems, or substation transformers or capacitors; addition of structural bracing to meet earthquake standards and/or sustain high wind loading; and replacement of aboveground or belowground tanks and related piping, provided that there is no evidence of leakage, based on testing in accordance with applicable requirements (such as 40 part CFR 265, "Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities" and 40 part CFR 280, "Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks"). These actions do not include rebuilding or modifying substantial portions of a facility (such as replacing a reactor vessel)."

Is the project funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act)     Yes     No

Approved by Jack Depperschmidt, DOE-ID NEPA Compliance Officer on: 12/5/2012