

# DOE-ID NEPA CX DETERMINATION

## Idaho National Laboratory

### **SECTION A. Project Title:** Radiation Monitoring and Seal System (RMSS) Stack Monitor and Damper Replacement

### **SECTION B. Project Description and Purpose:**

The Test Reactor Area (TRA)-770 Stack Radiation Monitoring System measures the air exhausted from the Advanced Test Reactor (ATR) for radioactivity and activates a ventilation shutdown if limits are approached or exceeded. Replacement parts are unavailable and age-related calibration difficulties have caused an increase in maintenance activities and system shutdown. This equipment is obsolete and needs to be replaced.

The proposed action would replace the stack monitoring and activation equipment, including the detectors (gamma chambers), pre-amps, amplifiers, high voltage power supplies, source check equipment, signal cable, and relays. Improvements to the communication equipment would also be made by adding additional circuits or moving the current circuit closer to the stack breach.

In addition, Radiation Monitoring and Seal System (RMSS) dampers BDM-1-5 and BDM-1-5A would be replaced. The RMSS dampers are located in the ventilation duct near the ATR Exhaust Stack and are an integral part of the ATR confinement system. Both dampers must shut upon receipt of an RMS-1 trip signal in order to seal confinement. The new assemblies would maintain the same valve design, and the actuators currently require pressure to close and would be changed to require compressed air against spring pressure to open, thereby closing upon loss of or removal of air pressure. New limit switches would provide a local visual indicator and remote position indication signals to the Reactor Data Acquisition System (RDAS). The new actuator would include a manual override feature to manually position the valve if compressed air is not available. A work platform would be installed to access the new manual override feature. New piping and valves to support the operation of the dampers would have the same form, fit, and function as the replaced equipment but would have improved accessibility.

Finally, the nitrogen backup system and other components no longer needed would be removed, including check valve CK-6-1012, Pressure PS-6-1009, and failed stack discharge pressure transmitter PT-HV-1 along with the digital control system display for the instrument.

Project Start Date: September 2016

Project End Date: September 2017

Project Cost: Approximately \$325K

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

#### **Air Emissions**

Emissions typical of cutting, grinding, and welding are expected. The emissions from this activity are not considered construction of a new stationary emission source.

#### **Disturbing Cultural or Biological Resources**

TRA-770 may be eligible for nomination to the National Register of Historic Places and removal and/or changes of original features may adversely impact this potentially historical property; however, the project activities as described are exempt and may proceed as described without further cultural resource review. The described project activities fall under exemptions 2 (routine maintenance activities) and 6 (safety systems) listed in Table 2 (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 51). As such, the project activities as described need no further cultural review.

#### **Generating and Managing Waste**

Maintenance activities may generate a variety of waste. It is anticipated that the following types of waste could be generated:

- Industrial waste (non-hazardous, non-radioactive) includes typical construction wastes such as boxes, wood, wiring, paper, insulation, and some metals.
- Hazardous wastes have the potential to be generated from activities 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 by replacement of outdated equipment. Note: Lead has been encountered very infrequently (e.g., shielded cables).
- Polychlorinated Biphenyl (PCB) waste could be generated when performing activities associated with pre-1982 equipment and materials such as capacitors, lubricants and dielectric fluids, transformers and bushings, painted surfaces and other electrical equipment/components.
- Low-Level radioactive waste would be generated by disposing of the dampers.

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**Releasing Contaminants**

Although not anticipated, chemical use has a potential for small air emissions and spills.

**Using, Reusing, and Conserving Natural Resources**

All materials would be reused and/or recycled where economically practicable. All applicable waste would be diverted from disposal in the landfill where conditions allow. The project would 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, B2.5 "Facility safety and environmental improvements"

**Justification:** Project activities are consistent with 10 CFR 1021, Appendix B, B2.5 "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 and belowground tanks and related piping, provided that there is no evidence of leakage, based on testing in accordance with applicable requirements (such as 40 CFR part 265, "Interim Status Standards for Owners and Operators Hazardous Waste Treatment, Storage, and Disposal Facilities" and 40 CFR part 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: 7/14/2016