

DOE-ID NEPA CX DETERMINATION

Idaho National Laboratory

SECTION A. Project Title: Test Reactor Area (TRA)-774 Substation Equipment Upgrades

SECTION B. Project Description:

This EC is being revised to capture the use of sulfur hexafluoride (SF₆) in the proposed new sectionalizer switch.

Electricity for heat at the Advanced Test Reactor (ATR) heaters is fed from the substation yard TRA-774 on the northeast corner of TRA-670. The proposed action would replace equipment in TRA-774 to improve efficiency of the equipment and to improve safety during maintenance operations. The proposed action would replace and upgrade the following components:

1. The fused sectionalizer 774-SS-1
2. Transformer 774-E-8
3. Main Heater Switchboard 774-E-9 is also 34 years old and does not provide a main breaker for disconnecting power to the switchgear for maintenance.

Currently, the fused sectionalizer 774-SS-1 does not provide a means of disconnecting power to any downstream loads during repair or maintenance. When repair or maintenance is performed on the heating transformers or switchboard, power needs to be disconnected using 786-SS-1 in the 786 substation in the northeast corner of the ATR complex. That results in de-energizing all heating electrical equipment in the TRA-774 substation yard. The Main Heater Switchboard 774-E-9 is 34 years old and does not provide a main breaker for disconnecting power to the switchgear for maintenance. Replacement of these components would improve safety by allowing disconnection of loads downstream from 774-SS-1 and by allowing a local de-energizing point with the addition of a main breaker. Arc flash hazards at the switchboard load breakers would also be mitigated.

The sectionalizer, transformer, and switchboard would all be pad mounted and have footprints similar to the ones being replaced. The transformer would be oil cooled (bio-degradable oil with a flash point greater than 300°C) and rated for outdoor use. Approximately 8 lbs of SF₆ would be used in the sectionalizer that feeds the transformer. SF₆ is used as an electrical insulator and used in high voltage switchgear to reduce the size of equipment and increase reliability. The switchboard would also be rated for outdoor use and would have a main breaker, 8 breaker positions in addition to the main breaker, and have dual lugs on each of the load connections.

Each switch on the sectionalizer could have the ability to be motor operated for circuit opening and closing. If motors are included, a means to run the motors on battery power and a battery charger would be included.

Conduit would be reused for all connections, and conductors running into TRA-670 to heating panels and to the TRA-786 substation yard would be reused. All conductors running locally in TRA-774 would be replaced.

Project Start Date: January 2015

Project End Date: October 2015

Project Cost: Approximately \$400,000.00

SECTION C. Environmental Aspects or Potential Sources of Impact:

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

INL is not in a source category required to support SF₆ for greenhouse gas (GHG) reporting. However, SF₆ is captured in annual GHG inventory and INL's Site Sustainability Plan.

Disturbing Biological or Cultural Resources - The activities described in the project description are exempted from cultural resource review ("INL Cultural Resource Management Plan" Table 2, exemptions 3, 6, and 9 [Department of Energy Idaho Operations (DOE/ID)-10997 rev. 5]). Therefore, the project could proceed as described without further cultural resource review.

Generating and Managing Waste - This activity has the potential to generate Resource Conservation and Recovery Act (RCRA) hazardous waste that needs to be managed according to laboratory procedures. Pollution prevention/waste minimization will be implemented where economically practicable to reduce the volume and/or toxicity of waste generated. All waste generated will be transferred to Waste Generator Services (WGS) for appropriate disposition. All waste generated from these activities will have an identified disposition path prior to it being generated.

Releasing Contaminants - There is a potential for possible disturbance of suspect polychlorinated biphenyls (PCB) during this activity. All chemicals utilized by this activity will be managed in accordance with laboratory procedures.

Using, Reusing, and Conserving Natural Resources - All material will be reused and/or recycled where economically practicable. All applicable waste would be diverted from disposal in the landfill when possible. Project personnel would use every opportunity to recycle, reuse, and recover materials and divert waste from the landfill when possible. The project would 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, and are non-toxic or less-toxic alternatives. New

DOE-ID NEPA CX DETERMINATION
Idaho National Laboratory

equipment will meet either the Energy Star or Significant New Alternatives Policy (SNAP) requirements as appropriate (see <https://sftool.gov/green-products/0?agency=7>). Such purchases could include hydraulic fluid in accordance with BioPreferred requirements (<https://sftool.gov/green-products/0/lube-oil-hydraulic-fluid-grease?agency=0>) as appropriate and practicable.

SECTION G. Determine the Recommended Level of Environmental Review (or Documentation) and Reference(s): 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 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" and B4.11 "Electrical power substations and interconnection facilities"

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)" and B4.11, "Construction or modification of electric power substations or interconnection facilities (including, but not limited to, switching stations and support facilities)."

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: 4/27/2015