DOE-ID NEPA CX DETERMINATION
Idaho National Laboratory

CX Posting No.: DOE-ID-INL-16-021

SECTION A. Project Title: Materials and Fuels Complex (MFC) Substation Transformer Refurbishment

SECTION B. Project Description and Purpose:

Substation 11 at the Materials and Fuels Complex (MFC) and building MFC-758 were constructed in the 1950's. The two transformers located in the switchyard are reaching the end of their expected design life. Failure of these transformers could result in long term power outages at nuclear and radiological facilities which would require back-up generators to provide power. In addition, the transformers are not adequate to support anticipated future growth and electrical load for MFC and the Transient Reactor Test Facility (TREAT). The proposed action would remove and replace the transformers with two new, larger transformers to accommodate growing facility loads. In addition, the switchgear in MFC-768 is not adequately sized to distribute power provided by the new transformers, so a new 13.8 kV powerhouse with new switchgear would be constructed.

The proposed action would include:

- Install two new 138 kV to 13.8 kV transformers to replace transformers 8T11-1 and 8T11-2.
- Install new electrical duct banks to support the new transformer secondary conductors, facility power and communication needs.
- Reroute duct banks from manholes EM-01 and EM-03 to the new switchgear building.
- Install a new switchgear building near the MFC-758 substation.
- Install new dual fed 13.8 kV switchgear within the switchgear building.
- Install replacement dual feeder conductors from the new 13.8 kV switchgear within the switchgear building to the manholes EM-01 and EM-03. The new feeder cables would be spliced to the feeders within the manholes.
- Install a new feeder for the TREAT overhead line from 13.8 kV switchgear within the switchgear building.

The expansion of the substation would require disturbance of the MFC Industrial Wastewater System piping. The work would require re-routing the piping from the south and west of the substation to the north. This re-route is considered a modification to a permitted wastewater system and would require submittal and approval of the modification plans to the Idaho Department of Environmental Quality (DEQ). The characteristics of the industrial wastewater would not change, only the route of the piping would change.

The project would take place inside the fences of MFC on previously disturbed areas. Transformers and MFC-758 are exempt structures and do not require evaluation by the Cultural Resources Management Office.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Fugitive dust may be generated during excavation activities. All reasonable precautions will be taken to control fugitive dust. Dust control methods that are used will be recorded to show compliance to the Idaho National Laboratory (INL) air permit and Idaho Administrative Procedures Act (IDAPA) air requirements.

Conduit and ducts leading to the transformers are asbestos containing material (transite) and may need to be disturbed during the project. Any disturbance of the asbestos-contaning material (ACM) would be completed by asbestos trained workers using appropriate control methods.

Discharging to Surface-, Storm-, or Ground Water

The expansion of the substation will require disturbance of the MFC Industrial Wastewater System piping. The work will require re-routing the piping from the south and west of the substation to the north. This re-route is considered a modification to a permitted wastewater system and would require submittal and approval of the modification plans to the Idaho DEQ. The characteristics of the industrial wastewater would not change, only the route of the piping would change.

Generating and Managing Waste

Typical non-hazardous construction waste such as concrete, scrap wire, conduit, cable, fence, packaging material, Resource Conservation and Recovery Act (RCRA) empty chemical containers, scrap piping, etc., will be generated during the project. Uncontaminated scrap metal will be sent to excess for recycle as appropriate.

There will be a potential for encountering polychlorinated biphenyl (PCB) contaminated concrete, soils, cable, conduit, wire, etc., which would result in generating PCB waste. Transformers that are removed will be moved to the Central Facilities Area (CFA)

transformer yard and will eventually be used for research and development (R&D) activities for National and Homeland Security (N&HS).

Asbestos containing waste material may be generated during the project. This waste will be packaged accordingly and most likely disposed at the CFA asbestos landfill.

All waste will be characterized and dispositioned at the direction of Waste Generator Services.

Releasing Contaminants

The transformers dielectric fluid has been retrofilled with non-PCB dielectric fluid. Bushings that are on the transformers have the potential for containing PCB's (not part of the retrofill). These transformers will be relocated to the CFA transformer yard and will eventually be used for R&D activities for National and Homeland Security (N&HS). Once the transformers are removed from the pads, project personnel must evaluate the pad for past spills (staining). If staining is observed, the pads will either need to be sampled and decontaminated (if PCB's) or removed and disposed of through WGS. Project personnel must report any evidence of spills to the soil surrounding the transformers and pads to Environmental Support and Services. Pre-project walkdowns should also be completed and evaluation for past spills on pads/soils should be conducted prior to starting the project. Cleanup will be required if PCB spills are discovered. This would include removal/disposal of soils and verification sampling. All spills/staining or discovery of oils associated with conduit, cable, or other electrical equipment shall be reported immediately to Environmental Support and Services. Project personnel shall discuss potential PCB's associated with the work in pre-construction meetings and pre-job briefs. This discussion should include response actions, stop work procedures, and contamination minimization methods.

There are several Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites located near the construction area. ANL-01 (Industrial Waste Pond and Cooling Tower Blowdown Ditches) is the site most likely to be disturbed. This site is a no action site and doesn't require notification/sampling/controls prior to disturbance. It is unlikely other CERCLA sites will be disturbed (Argonne National Laboratory [ANL]-28 Experimental Breeder Reactor-II [EBR-II] Sump, ANL-31 Industrial /Sanitary Waste Lift Station, and ANL-61 EBR-II Transformer Yard) during the project, however, project personnel shall contact Environmental Support and Services (Brad Griffith [526-4540]) if it becomes necessary to disturb these areas.

Using, Reusing, and Conserving Natural Resources

Uncontaminated scrap conduit, wire, and cable will be recycled as appropriate. Transformers will be placed at the CFA transformer yard for future use by National and Homeland Security.

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), projects checked above as “CX,” 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 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, B4.11 "Electrical power substations and interconnection facilities" and B5.2 "Modifications to pumps and piping"

Justification: Project activities are consistent with 10 CFR 1021, Appendix B, B4.11, "Construction or modification of electric power substations or interconnection facilities (including, but not limited to, switching stations and support facilities)" and B5.2, "Modifications to existing pump and piping configurations (including, but not limited to, manifolds, metering systems, and other instrumentation on such configurations conveying materials such as air, brine, carbon dioxide, geothermal system fluids, hydrogen gas, natural gas, nitrogen gas, oil, produced water, steam, and water). Covered modifications would not have the potential to cause significant changes to design process flow rates or permitted air emissions."

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: 3/14/2016