**SECTION A.**

**Project Title: MFC – Sodium Processing Facility Tank System Resource Conservation and Recovery Act Closure**

**SECTION B. Project Description**

The Sodium Process Facility tank systems and associated piping and components will be closed in compliance with the Hazardous Waste Management Act/Resource Conservation and Recovery Act (HWMA/RCRA) SPF/SSS Permit. The clean-closure action levels will be achieved by removal and/or decontaminating or treating waste residues in the SPF tanks systems and the SSS piping/components. The system and associated piping and components are located in the MFC-799 and MFC-799A Facilities. The closure will ensure the HWMA units will not require further maintenance and controls after closure, minimize or eliminate any threats to human health and the environment, and post closure release of hazardous waste or mixed waste to ground or surface waters or to the atmosphere. The container storage areas will remain operational until completion of closure of the existing SPF and SSS units and closure of treatment systems that may be added to MFC-799 and MFC-799A in the future.

The system contains elemental sodium and sodium hydroxide. The SPF treated bulk sodium from the Experimental Breeder Reactor-II and the Sodium Boiler Building, using a water-wash reaction vessel to produce sodium hydroxide. The SPF also treated 1200 drums of elemental sodium from the FERMI-1 reactor. The MFC-799A, Caustic Storage Tank building contains a single tank used to store sodium hydroxide solution.

The SPF system includes seven tanks (sodium storage tank, two day tanks, water holding tank, reaction vessel, caustic cooling tank, caustic storage tank) and the transfer line. Closure methods will include the following steps:

Visual inspections to determine the presence of hazardous waste (HW) or mixed waste (MW) stains or residue.

Decontamination such as wet rinsing methods.

Waste removal (remove the tanks and/or piping) for treatment and storage. Treatment may include flushing and rinsing with water or water with additives such as citric acid.

Piping or component removal (cut and remove section) for treatment and storage. A treatment solution may be used to simultaneously react elemental sodium, sodium hydroxide and oxides in situ.

The proposed action is scheduled to begin in July 2012 and continue through January 2013. The approximate cost for clean closure is $3.5M.

**SECTION C. Environmental Aspects / Potential Sources of Impact**

**1. Air Pollutants** –The proposed action will generate radiological emissions from the piping, tanks and other equipment.

Radiological emissions to the environment, including those from point and diffuse sources, must be determined for demonstrating compliance with the NESHAP Standard [see 40 CFR 61.93(a)] and submitted for reporting in the INL NESHAP Annual Report per 40 CFR 61.94. If any fugitive radiological emissions are released, the performing organization Project Manager or Source Owner/Manager shall ensure that the calendar year emissions are determined and reported (via signed memorandum) to Environmental Programs by March 15 for the preceding year.

All air emissions will be assessed and documented in an Engineering Design File prior to initiating the proposed action.

**4. Chemical Use and Storage** – A treatment solution (citric acid solution) may be used to simultaneously react elemental sodium, sodium hydroxide, and other sodium and oxides in situ.

Project personnel will use non-hazardous chemical substitutes in the place of hazardous chemicals as long as the non-hazardous substitutes meet the requirements/specifications of the project. Spill prevention/minimization measures will be employed during storage and use of chemicals/ fuels.

**9. Hazardous/Mixed Waste Generation** – There is a potential that both hazardous and mixed waste could be generated from performing the proposed action. If so, these waste streams will be managed in accordance with the substantive and administrative requirements of the HWMA/RCRA, and will be disposed or stored at an appropriate disposal facility in accordance with the disposal facility's waste acceptance criteria (WAC).

Hazardous waste will be stored in containers and may be stored in a 270-day area pursuant to the Closure Plan prior to transferring the containers to a HWMA/RCRA permitted storage or treatment facility. If needed for waste disposition purposes, neutralization or stabilization of the waste may be performed in the hazardous waste storage areas.

**10. Hazardous/Radioactive Material and Waste Handling and Transportation** – A hazardous waste determination will be performed for all waste streams to identify the appropriate management practices. Waste streams will be evaluated to determine if any of these materials can be recycled or reused and will be evaluated to implement actions for minimizing waste entering the landfill.

**11. Industrial Waste Generation and Management** – Small amounts of industrial waste will be generated in the form of packaging materials and wiring from equipment installation or removal of non-hazardous, non radiologically-contaminated components. This waste stream will be disposed of at the CERCLA Landfill at MFC through waste generator services.

**16. Radioactive Waste Generation and Management –** Radiologically-contaminated waste will be generated in the form of personal protective equipment, tools, etc. Waste stream planning and management will be performed under the direction of Waste Generator Services.

**17. Storage of Hazardous/Rad. Materials or Waste in Tanks** – The proposed action includes seven tanks; the sodium storage tank, two day tanks, water holding tank, reaction vessel, caustic cooling tank, and the caustic storage tank. The tanks and associated piping are RCRA permitted. The Permit has been modified to address the treatment process described in Section B.

The tank systems will be closed through the combined use of three methods identified in the HWMC/RCRA Closure Plan (visual inspection and waste determination, removal followed by subsequent storage and treatment, and treatment with water and/or water with additives such as citric acid).

**SECTION D. Determine the 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.

Note: 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, including requirements of DOE orders; 2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment 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) adversely affect environmentally sensitive resources. 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: Categorical Exclusions B6.1, Small-scale, short-term cleanup actions under RCRA, Atomic Energy Act, or other authorities.

Justification: B6.1 addresses the RCRA clean-closure of the tank system.

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 June 27, 2012.