Minor
OPERATION AND MAINTENANCE
Activity Plan

SPD Hand Digging Excavation in DPA and MC&A Rooms
Site Evaluation Areas 572 and 476

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1. INTRODUCTION

This Operation and Maintenance (O&M) Plan for the SPD Hand Digging Excavation Activities in the MC&A and DPA Rooms will provide a means by which soil/media disturbance can commence within Site Evaluation Areas (SEA) 572 and 476, while protecting human health and the environment, and minimizing impacts to long term characterization and remediation efforts. This O&M Plan is characterized as "minor intrusive" because less than 10 percent of the Site Evaluation Area will be excavated/disturbed.

2. AREA DESCRIPTION AND CONDITIONS

The K-Reactor Complex, also identified as the K-Area Complex, includes a reactor vessel subunit; a disassembly basin subunit; and a building and attached structures subunit. It is included on the Federal Facility Agreement (FFA) Appendix K.1 (D&D Facilities to be Decommissioned). An Early Action Record of Decision (EAROD) documents the selected remedy for the C-, K-, L-, and R-Reactor Complexes (SRNS-RP-2009-00707). The remedy includes in situ decommissioning with land use controls. Because K-Reactor Complex has continuing mission, implementation of the selected remedy is deferred until missions cease.

As a result of activities conducted in the building and attached structures subunits, structural concrete and components may be impacted with fixed contamination at concentrations exceeding the 1E-06 industrial worker risk threshold and 1E-03 principal threat source material (PTSM) thresholds in portions of the building (i.e., sumps, Purification Area). The building concrete and components could also be impacted with contaminants at concentrations that may have the potential to migrate to groundwater at levels exceeding regulatory standards.

The planned activities include the disturbance and excavation of soil beneath 105-K (the reactor building). This is considered an intrusive activity within a RCRA/CERCLA Unit and, therefore, requires an O&M Plan.

As noted, the potential contaminants of concern are radionuclides, chiefly as fission products and tritium from heavy water/D2O moderated reactor

operations. Safety and health concerns are primarily from personnel exposure to radionuclides. Previous work within K-Area, has not yielded any evidence of radionuclide presence in the environment.

3. O&M ACTIVITY

A. O&M Activity Description

The planned soil disturbing activity within 105-K involves minor excavation to MC&A and DPA rooms to support putting new concrete walls, footings, and a drain line. The concrete slab has already been removed, so excavation activities will occur on grade in the eastern portion of the FSA. The excavation will go approximately 3' deep. All penetrations will be infilled with concrete after drain installation.

This activity is expected to begin in September of 2024 and complete by October 2024. If this work scope requires significant change for any reason, the SRNS On-Scene Coordinator (OSC) will be contacted to determine if modifications to this O & M Plan are required.

B. O&M Activity Sampling and Monitoring for Health and Safety

Radiological Protection (RP) will not perform sampling on the excavation activities occurring inside the 105-K building. RP personnel determined that radiological sampling was not required.

The work area will be barricaded to ensure that access is controlled. This is a personnel safety issue.

Worker health and safety will be described and controlled, as required, in the Assisted Hazards Analysis.

C. Health and Safety Plan

The health and safety concern for this O & M Plan primarily involves worker exposure to potential radiological contamination. While there have been no detectible radiological contamination (above background) found in recent soil disturbances in K-Area, RP shall be

available for any questions or oversight requested during the excavation process.

D. Characterization and Sampling Plan for the Affected Area within SEA 476

Soil sampling will not be required per radiological protection personnel.

E. Contaminated Materials Management and/or Disposal

SEA 476 soil/media are determined to be "clean" by RP, normal waste disposal practices may be applied, as determined by SPD ECA.

F. Environmental Plans and Permit Modification Requests

The soil disturbing aspect of this task is not expected to involve environmental plans/permits or other required maintenance and inspections.

4. CONTINGENCY PLAN

If at any time during the implementation of the activity, the conditions change, such that the activity is no longer considered "minor" (is greater than 10% of a waste unit area impacted or disturbed) or any other unanticipated event occurs, the Facility Operations Manager or the ECA shall:

- Immediately notify the SRNS-OSC. The SRNS-OSC will notify the DOE-OSC.

- Contain and stabilize the area, investigate as necessary to determine the necessary change in the activity plan, secure the area and stop work.

- Update the SRNS-OSC as to the findings and the requested path forward. The SRNS-OSC will communicate the information to the DOE-OSC and obtain concurrence on the path forward.

5. DOCUMENTATION & REPORTING

The SPD CD 2/3 Project Manager or the SPD ECA will transmit the following close-out documentation to the SRNS-OSC by the 20th day of the month following the month that the land disturbing activity was completed:

- the signed O&M Plan,
- any sampling and characterization data collected,
- quantity of contaminated materials generated, and
- treatment, storage, and disposal location of contaminated material.

References

1. WSRC-RP-96-45, Savannah River Site Plan for Performing Maintenance in Federal Facility Agreement Area (O&M) Plan (U), December 15, 1996.
2. SRNS-RP-2009-00707, Federal Facility Agreement (FFA) Appendix K.1 (D&D Facilities to be Decommissioned). An Early Action Record of Decision (EAROD) for the C-, K-, L-, and R-Reactor Complexes (U), September 2009.