Minor
OPERATION AND MAINTENANCE
Activity Plan 23-022

K-Area SPD Project Construction Island in Site Evaluation Areas 476, 301, and 572

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1. INTRODUCTION

This Operation and Maintenance (O&M) Plan is to identify any legacy waste area considerations associated with soil disturbing activities in creation of the K-Area Surplus Plutonium Disposition (SPD) Project Construction Island. The SPD Project Construction Island is simply the footprint of real estate external to the southside of 105-K, westward to the RR tracks which lead to the Disassembly Basin (Transfer Bay) and eastward to the Nearside Handball Court at the southwest Assembly Area corner. The main roadway traversing east to west behind 105-K is the southernmost depth of the Construction Island (with the exception of the Construction Island entranceway which is further south of the roadway).

Within this Construction Island area (or at least within the 200 ft buffer) are three known legacy spill/release sites identified in the Federal Facilities Agreement (FFA). They are **Waste Unit 301** - *Potential Release from K-Area Disassembly Basin,* **Waste Unit 476** - *K-Reactor Area Cask Car Railroad Tracks*, and **Waste Unit 572** - *K-Area Process Sewer Lines as Abandoned*. The SPD Construction Island will disturb the upper surface layer to approximately 6 inches in depth to include topsoil/gravel in select locations in order to grade/level/prep these locations with crusher run.

The potential contaminant of concern for these waste units are radionuclides. This O & M Plan provides a means by which soil/media disturbance can commence within identified Site Evaluation Areas (SEA), 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 Areas will be excavated/disturbed.

2. AREA DESCRIPTION AND CONDITIONS

Site Evaluation Areas 302, 476, and 572 are identified as requiring radiological evaluation due to the potential presence of radioactive impurities from spills associated with legacy operations occurring during the reactor operations era. This Plan will direct sampling by Radiological

Protection, and O & M managed SEA disturbance activities to be performed, within the K-Area Complex (KAC) Protected Area (in the general southside of K-Area). These soil disturbances are for the installation of crusher run at select locations to grade/level/prep for ease of safe travel and the safe placement of needed equipment, housing, etc.

Soil disturbance areas will be identified and targeted for sampling to ensure that the potential contaminants of concern are assessed prior to the crusher run placement and compaction. Safety and health concerns are primarily from personnel exposure to radionuclides. Previous work associated with these Site Evaluation Areas, and for those similar within K-Area, have not yielded any evidence of radionuclide presence in the environment.

3. O&M ACTIVITY

A. O&M Activity Description

The planned soil disturbing activity involves minor excavation/soil disturbance (removal of ~6" topsoil/gravel) in support of the placement of crusher run. This is anticipated to be a simple installation, and ground penetrating radar will be employed to identify any interference concerns.

This activity is expected to begin in August of 2023 and complete by end of January 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 perform sampling to support the subject soil disturbing activities that are described in this O & M Plan (to a depth of ~six inches at impacted locations). There should be no waste associated with this activity in terms of soil, as it is anticipated that soil/gravel be returned to the local area. However, if soils contaminated by radionuclides are discovered, waste disposition will be performed typical for SRS waste protocol. Given that the soil is

found to be at or below background for radiological constituents, RP will allow for the excavation as described in Section D to proceed.

The work area will be barricaded to ensure that access is controlled.

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 has 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 process of SPD Project Construction Island preparatory activities.

D. Characterization and Sampling Plan for the Affected Areas

Soil sampling is required for any soil disturbance in these Site Evaluation Areas. The soil sampling scope is defined in the *"Soil Sampling Plan in Support of Work Order # 02021896-02 – Site Preparation Activity to Develop the Surplus Plutonium Disposition (SPD) Construction Area, Located South of 105-K. Scope of Work Includes Stripping of Vegetation, Topsoil, and Gravel Areas and Install Gravel Surfacing in Support of Future Construction Activities".* (Ref. 2)

The characterization and sampling record for this minor intrusive O&M activity will be the RP sample data for the presence of radiological contamination in the soil/media.

If any radioactive contamination is found from sampling, the Environmental Compliance Authority (ECA), along with RP and K-Area Complex (KAC) Operations management will devise an alternative plan by which to carry out SPD Project Construction Island preparatory activities. As indicated above, evidence of soil contamination would likely require revision to this O & M Plan, or a possible addendum.

Additionally, the SRNS-OSC shall be notified by the Area ECA, and any additional work scope and sampling from the soil disturbance areas will be completed per SRNS-OSC guidance.

E. Contaminated Materials Management and/or Disposal

The disposition of any waste materials generated during this activity will be contingent upon sample results. If soil/media are determined to be "clean," normal waste disposal practices may be applied, as determined by KAC Waste ECA. If contaminated, however, RP will advise soils/media/equipment disposition, in coordination with Waste Certification Engineering and the ECA. These options would be explored and fully described in a revised O & M Plan (or addendum).

Contaminated waste should be characterized and disposed of as "Radioactive Waste" under current SRNS/KAC Waste Management procedures, or deconned, if deemed appropriate by RP and the SRNS-OSC.

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, except for potential erosion control practices.

The Site Use/Site Clearance Permit process will be addressed prior to soil disturbance initiation, as needed.

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 Facility Operations Manager or the 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. *Soil Sampling Plan in Support of Work Order # 02021896-02 – Site Preparation Activity to Develop the Surplus Plutonium Disposition (SPD) Construction Area, Located South of 105-K. Scope of Work Includes Stripping of Vegetation, Topsoil, and Gravel Areas and Install Gravel Surfacing in Support of Future Construction Activities.*