Minor
OPERATION AND MAINTENANCE
Activity Plan 21-006

K-Area Entry Control Facility and Support Diesel in Site Evaluation Area 476

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1. INTRODUCTION

This Operation and Maintenance (O&M) Plan for the K-Area Entry Control Facility (ECF) and Support Diesel (location - SE corner of the K-Protected Area) will provide a means by which soil/media disturbance can commence within Site Evaluation Area (SEA) 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 Site Evaluation Area 476 is identified as requiring radiological evaluation due to the presence of moderator/radioactive impurities from spills associated with rail transport of cask cars containing filters, deionizers, etc. (from Purification Area) along the K-Area railroad (RR) system. This O & M Plan will direct sampling and O & M managed SEA disturbance activities in three locations within the K-Area Complex (KAC) Protected Area at the southeast corner, in the vicinity of the 105-K HVAC chillers. The first 1) is the minor excavation required to remove RR tracks, crossties, and stones, just south of the chillers, for an area up to approximately 50 ft. Following removal, … regrading and surface enhancements for storm water management are needed in this area for establishment of the nearby ECF foundational preps (the ECF will not contact or obstruct the SEA footprint).

Secondly, 2) fence posts/fencing will be installed around the proposed ECF construction area (primarily for security purposes). Where fence posts installation will encroach upon SEA 476, soil sampling and O & M protocols will be observed.

Finally, 3) at an empty concrete pad located just to the west (previously known as the culverts pad), the ECF support diesel and electrical building will be placed. A new fence will border this pad, which is adjacent to SEA 476. Protocols as noted before will be directed for sampling at fence posts, as well as for the minor excavation required to install an electrical duct bank (to the electrical building) at the pad. Again, sampling and O & M

Plan requirements will be observed for any duct bank construction soil disturbance.

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 associated with this Site Evaluation Area, 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 in SEA 476 involves minor excavation of 1) approximately 50 ft. of RR tracks/crossties/stones removal and regrading, 2) fence posts/fencing to provide a boundary around the ECF construction zone and 3) at the culverts pad, and soil disturbance for the duct bank installation local to the culverts pad.

This activity is expected to begin in February of 2021 and complete by end of Summer 2022. 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. There should be no waste associated with this activity in terms of soil, as it is anticipated that it 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 from SEA 476 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 RR tracks, if cleared by RP, are anticipated for disposition as scrap metal for recycle. The RR tracks crossties, if cleared, are anticipated to be cut into < 8 ft sections and disposed at the Three Rivers or the Site C & D Landfill.

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 has been no detectible radiological contamination (above background) found in recent soil disturbances in K-Area SEA 476, RP shall be available for any questions or oversight requested during the process of ECF construction preparatory activities.

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

Soil sampling is required for any soil disturbance in this Site Evaluation Area. The soil sampling scope is defined in the *"Soil Sampling Plan for Work Package # 01837174-01 - Construction of Area ECF-3 Project Y826; #01837174-02 - Exploratory Excavation and Layout to Support Project Y826; #01837174 - Install Duct Banks to Support K-area ECF-3 Project Y826"* (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 ECF construction 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 SEA 476 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 for Work Package # 01837174-01 - Construction of Area ECF-3 Project Y826; #01837174-02 - Exploratory Excavation and Layout to Support Project Y826; #01837174 - Install Duct Banks to Support K-area ECF-3 Project Y826*