Performance Work Statement

Characterization of Building 9213 at the Y-12 National Security Complex

A. BRIEF PROJECT DESCRIPTION

In February or March 2019 timeframe, the Department of Energy (DOE), Oak Ridge Environmental Management office (OREM), proposes to perform characterization of Building 9213, the Critical Experiment Facility (CEF) Development/Offices, located in a forested valley on Chestnut Ridge, south of the Y-12 National Security Complex (NSC). (Figure 1). Building 9213 is part of the 9213 and 9401-2 Demolition subproject. Building 9213 is approximately 23,635 square feet (SF). The regulatory driver is the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) process in accordance with the approved Action Memorandum for the Y-12 Facilities Non-Time-Critical Removal Action Deactivation/Demolition Project, Oak Ridge, Tennessee (DOE/OR/01-2462&D2).
Figure 1. 9213 Location Map as Part of 9213 and 9401-2 Demolition Subproject

Building 9213 was built in 1950. The purpose of the CEF was to collect data from assemblies of solid and liquid fissile materials in both subcritical and critical configurations. The building is an irregularly shaped, 23,635 SF, two-story reinforced concrete and concrete block structure on a poured concrete foundation. The dimensions of the building are approximately 200 ft. x 80 ft. The high bay areas, located on the northeast and southwest ends of the building, contain three concrete-shielded test cells used for experiments.

Over the years, the CEF has supported basic research on reactor physics and critical geometries, testing of reactor fuel elements, reactor design, development of fissionable material transport, and storage techniques.

From 1965 to 1987, the west test cell was used by the Oak Ridge National Laboratory Research Reactors Division for initial testing of fresh fuel for the High Flux Isotope Reactor. Regular 9213 operations ceased in 1987 and the facility was approved for shutdown and transfer to EM in 1992. All utilities have been deactivated and the facility is cold and dark. Current activities are restricted to EM surveillance and maintenance (S&M) and limited use by the U.S. Army as a Nuclear/Radiological Field Training Center.

Final decommissioning of Building 9213 will require removal of legacy materials and process equipment prior to demolition. There is fixed and removable contamination present in the test cells and small amounts of residual radioactive material (enriched uranium solutions) in tanks and process equipment, particularly in the west test cell area used for critical experiments with aqueous solutions.

Figure 2 shows a photograph of Building 9213. Table 1 provides information associated with Building 9213.

Figure 2. 9213 Photograph
Table 1. 9213 Facility List

<table>
<thead>
<tr>
<th>Facility Number</th>
<th>Facility Description</th>
<th>Program</th>
<th>FIMS Category 1</th>
<th>Size² (SF)</th>
<th>Footprint (SF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9213</td>
<td>Development/Offices</td>
<td>EM</td>
<td>Building</td>
<td>23,635</td>
<td>23,635</td>
</tr>
</tbody>
</table>

FIMS = Facilities Information Management System

1. Category represents the property type as given in FIMS (Building, Trailer, or Other Structures or Facilities [OSF]). If property is not included in FIMS it is noted here as “Not Listed.”

2. Square Footage for Categories “Buildings” and “Trailers” utilize FIMS as a data source. For Categories “OSF” and “Not Listed,” the square footage comes from other sources.

B. PERFORMANCE WORK STATEMENT

The Contractor shall provide all personnel, equipment, supplies, facilities, transportation, tools, materials, supervision, and other items and non-personal services necessary to perform the work as defined in this Performance Work Statement (PWS). The Contractor shall perform to the expectations in contract.

The overall goal to be achieved through this PWS: Prepare the planning documents which will allow for the characterization of Building 9213 at Y-12.

This PWS requires development of a Process Knowledge (PK) Overview; project Data Quality Objectives (DQO) that support OREM’s waste disposal hierarchy for presentation and approval by U. S. Environmental Protection Agency (EPA) Region 4 and Tennessee Department of Environment and Conservation (TDEC) regulators/stakeholders; a project Waste Handling Plan (WHP); a Sampling and Analysis Plan (SAP); and a Quality Assurance Project Plan (QAPP) and a QAPP Checklist:

PWS performance shall include the following:

1. The Contractor shall provide 100% of all services and deliverables identified in this PWS in a safe, compliant, timely, complete, effective and efficient manner.

2. The Contractor shall adhere to and follow all applicable statutes, regulations, and DOE Orders which pertain to the PWS activities.

3. The Contractor shall ensure that personnel assigned to the contract have the appropriate security clearances and skills required to perform the PWS requirements.

4. Contractor personnel shall conduct themselves with professionalism expected in a Government office environment in accordance with applicable DOE and federal regulations.

5. The Contractor shall attend a project kickoff meeting, attend all technical meetings regarding project, and provide weekly reports electronically to the Project Manager on project progress, as well as technical issues that arise.
6. The Contractor’s performance will be measured for completeness, quality of work, timeliness and accuracy. Unacceptable work as designated by the Contracting Officer (CO) or Contracting Officer Representative (COR) must be corrected by the Contractor at no additional cost to DOE.

7. Under the guidance and technical direction of the CO and/or the COR, and in consideration of performance expectations stated above, the Contractor shall complete the scope of work for the project.

8. The Contractor is solely responsible for gathering, obtaining and assembling all historical and recent documentation regarding the structure, equipment contained within the structure and other information necessary to produce all documentation specified in this PWS. This includes pursuing and gaining approval of all necessary security protocols to view and use information necessary to prepare all deliverables listed in this PWS.

9. The Contractor is solely responsible for gathering, obtaining and assembling all historical and recent documentation regarding the area use, operations, spill histories that may affect the appropriate characterization associated with the slabs and soils, as well as additional information necessary to produce all documentation specified in this PWS. This includes pursuing and gaining approval of all necessary security protocols to view and use information necessary to prepare all deliverables listed in this PWS.

10. OREM is the landlord of this property which is currently managed by a prime Contractor, URS | CH2M Oak Ridge LLC (UCOR). The selected Contractor under this PWS is responsible for all coordination with the prime Contractor to perform site visits, access records, historical documents, etc. to complete the contract scope of work.

C. SCOPE OF WORK

Deliverables are as follows:

1. Project PK Overview. Prepare a project PK Overview for the facility to include: identification of contamination and other hazardous materials (e.g., polychlorinated biphenyls (PCBs), asbestos, universal waste, etc.) and National Emission Standards for Hazardous Air Pollutants (NESHAPS) discharge records, spill histories, records of historical waste streams; and, any regulatory determinations (e.g., RCRA Listed Waste Determination) associated with the contamination and other hazardous materials management. Include an estimate of waste types (LLW, RCRA, etc.), media (concrete, piping, etc.), and individual and total volumes and masses.

2. Project DQOs. Develop the project DQOs in accordance with EPA Guidance on Systematic Planning Using the Data Quality Objective Process EPA QA/G-4, EPA/240/B-06-001, dated February 2006 (DQO Guidance), conduct an initial dry-run session with DOE, update the presentation based on DOE feedback, and conduct final presentation briefing to the regulators and stakeholders.

3. Project SAP. Develop the project SAP based on the project DQOs and in accordance with EPA Region 4 requirements and guidance. The SAP shall be designed to comply with protocols specified in the EPA Test Methods for Evaluating Solid Waste, SW-846, Third Edition (SW-846). Statistical sampling designs shall be based on EPA Guidance on Choosing
a Sampling Design for Environmental Data Collection EPA QA/G-5S, EPA/240/R-02/005, dated December 2002 (G-5S). The SAP shall be developed to support the decision-making process covering disposition alternatives consistent with OREM’s waste disposal hierarchy.


5. Project WHP. The Contractor shall prepare a WHP in accordance with FFA requirements to support OREM’s waste disposal hierarchy (re-use, recycling, ORR landfills, EMWMF, and off-site TSDF treatment and/or disposal). The Contractor shall ensure that all disposition requirements are identified.

The Contractor shall provide document packages in accordance with the following review cycles, and conduct one comment resolution meeting for D0 and D1 review cycles:

1. Within 45 days of task award, transmit electronically the Project PK Overview and the Project DQO packages (D0) to OREM for review/comment. Assume one revision will be necessary based on OREM’s comments.
2. Within 60 days of task award, schedule a briefing of the regulators on the Project DQO package. Transmit electronically to the COR minutes and briefing slides from the Project DQO session.
3. Within 30 days of the briefing of the regulators on the Project DQO package, submit electronically to OREM, a D0 version of the Project WHP, Project SAP, Project QAPP, and Project QAPP Checklist for review and concurrence. Assume one revision will be necessary based on OREM’s comments.
4. Within 15 days of OREM’s concurrence, transmit in the form of 10 hard-copies and 5 CDs/DVDs, to OREM the D1 version of the Project DQO package, Project SAP, QAPP, Project QAPP Checklist for transmittal to the regulators for approval. Assume one revision based on the regulators comments.

Project Records. All project records for work performed shall be submitted to the COR within 15 days of completion. Contract files include the project DQO, SAP, QAPP, QAPP Checklist, DQA, and WHP, including comment resolution documentation, meeting minutes and briefing slides from the DQO briefing.

D. GOVERNMENT FURNISHED SERVICES AND INFORMATION

The following are considered government furnished services and information (GFSI) for the purpose of this PWS, but the GFSI should not be considered a comprehensive and complete list of applicable documentation. The Contractor is encouraged to seek additional information to complete the deliverables required. The Contractor is responsible for completing the PWS in accordance with the specific requirements found within. The Contractor is encouraged to notify OREM of any specifications that may result in failure to meet the project objectives.

The following GFSI documents will be provided in electronic format (CD/DVD):
1. 9213 ACM Quantities Table.pdf
2. 9213 Drawings_1.pdf
3. 9213 Drawings_2.pdf
4. 9213 Facility Categorization and Hazard Classification.pdf
5. 9213 History of OR Critical Experiments Program.pdf
6. 9213 HMID (8-9-06).pdf
7. 9213 HMID (9-6-07).pdf
8. 9213 PHS.pdf
9. 9213 Radiological Survey Results.pdf
10. 9213 Shutdown Plan.pdf
11. MOA 9213 Criticality Experimental Facility 7-31-2006.pdf