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Decommissioning Project Final Report (DPFR) Building 232-1H, Warehouse, Tritium Facility

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History of Revisions

Revision	Date	Revised Section	Change
0	1/02/2019	Not Applicable	Initial Issue

Acronym List

CLSM	Controlled Low Strength Material
DOE-SR	Department of Energy Savannah River Operations Office
DPFR	Decommissioning Project Final Report
EC&ACP	Environmental Compliance & Area Completion Projects
FDE	Facility Decommissioning Evaluation
S&M	Surveillance and Maintenance
SCDHEC	South Carolina Department of Health and Environmental Control
SRS	Savannah River Site
USEPA	United States Environmental Protection Agency

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1.0 SUMMARY

The 232-1H Building was located in the center of the Savannah River Site (SRS) within H-Area, east of the 232-H Building and just west of the 705-H Office Building. Constructed in the late 1950s, Tritium Building 232-1H is a fifty-year old structure that formerly housed construction offices, shop, and storage in support of Tritium construction activities.

A review of the existing characterization data, process/building history, sample data and walk downs of the facility prior to decommissioning supported the determination that this building met the criteria of a Clean Building, Simple Model as described in Facility Disposition Manual 1C, Procedure 501. This decision was supported by the documentation found in the Facility Decommissioning Evaluation (FDE), G-FDE-H-00004 (Reference 8.01) and concurrence letters from the United States Department of Energy – Savannah River (DOE-SR) (Reference 8.02), South Carolina Department of Health and Environmental Control (SCDHEC) (Reference 8.03), and United States Environmental Protection Agency (USEPA) (Reference 8.04). No chemical or hazardous radioactive materials were associated with this structure other than commonly used materials of construction, which were managed as waste during demolition in accordance with established Savannah River Site (SRS) practices. Since there was no evidence of contamination on the slab before structure demolition, no final verification survey was required.

The proposed decommissioning end-state for this facility was demolition to, but not including, the building slab. The above ground portion of the structure was demolished to top of floor slab elevation and removed. All interfacing utilities were isolated, disconnected, and plugged. The degreaser pit and other floor openings were filled to achieve a uniform surface. Surrounding soil that was disturbed during decommissioning was graded uniformly.

2.0 PURPOSE AND SCOPE

The purpose of this DPFRR report is to document what was done to the facility as a part of the decommissioning project, and the condition the facility was left in at the completion of the project. The requirement for this report is found in the Facility Disposition Manual 1C, Procedure 506, "Preparing a Decommissioning Project Final Report".

2.01 Facility Description

The 232-1H Building was located in the center of the Savannah River Site (SRS) within H-Area, east of the 232-H Building and just west of the 705-H Office Building. Constructed in the late 1950s, Tritium Building 232-1H was a fifty-year-old structure that formerly housed construction offices, shop, and storage in support of Tritium construction activities. The building was emptied, deactivated, and locked in late 2010, while awaiting funding for decommissioning. Building

232-1H was a non-radiological facility with a gross square footage of 11,691 ft² (237'-1" x 48'-3" plus a 12' x 21' building addition [Room 17]). There were also two wood-framed, metal-covered equipment sheds attached to the exterior walls of the building. Building 232-1H was a steel-framed structure with metal siding and roof, constructed on a concrete slab. The slab contains a 9.5' x 9.5' x 4.75' deep degreaser pit which formerly held four (4) small stainless steel tanks. The pit was covered with steel grating, supported by a structural steel framework. The four (4) small tanks were previously drained and removed during building deactivation activities. Interior walls were framed with 2" x 4" wood studs. The ceiling was framed with 2" x 6" wood joists supported from steel trusses. The building had steel-framed exterior windows and exterior steel doors. Interior floor consisted of various floor coverings (i.e., tile, linoleum, paint, a floor coating system, and carpeting). It had drywall, wood veneer paneling, plywood, Masonite, and fabricated metal panel walls. There were also transite walls in Shop Lunch Room 2 and Shop Cleaning Room 1. Building 232-1H had drywall walls and ceiling above the drop ceiling in most areas. Some of the drywall was not finished with tape and spackle. The south end of the building was insulated on the walls and ceiling with roll-type fiber glass with a white vinyl backing. The ductwork inside the building was metal with some insulated with foil-backed fiberglass and cork under canvas and black mastic. The roof was not being maintained to minimize rainwater leakage to mitigate deterioration of the structure.

2.02 New Facility Information

SRS identified no new facility information during or as a result of the facility decommissioning.

3.0 DECOMMISSIONING MODEL APPROVAL

The facility was decommissioned using the Simple Model as described in Facility Disposition Manual 1C. The selection of the model was based on an FDE (Reference 8.01). SCDHEC regulator walkdown of the facility occurred on 9/14/2017. USEPA regulators elected not to walk down the facility in advance of decommissioning. Neither SCDHEC nor USEPA posed any questions concerning the 232-1H FDE. It received Department of Energy (DOE-SR) concurrence on 8/3/2017 (Reference 8.02), SCDHEC concurrence on 9/22/2017 (Reference 8.03) and USEPA concurrence on 10/10/2017 (Reference 8.04).

4.0 DECOMMISSIONING ACTIVITIES COMPLETED

Building 232-1H was demolished to, but not including, the building slab. The above-ground portion of the structure was demolished to top of floor slab elevation and removed. All interfacing utilities were isolated, disconnected, and plugged. The degreaser pit was filled with controlled low strength material (CLSM) to within six inches of the building

floor slab and capped with a six-inch-thick, 4000 psi reinforced concrete slab. Other floor openings were filled with grout to achieve a uniform surface. Surrounding soil that was disturbed during decommissioning was graded uniformly.

5.0 WASTE MANAGEMENT

5.01 Salvage and Reuse

Building 232-1H, Warehouse, Tritium Facility formerly housed construction offices, shop, and storage in support of Tritium construction activities. The building itself was the only accountable real and related asset identified in the “Asset Management Information System¹.” No portable assets were identified. All non-accountable assets stored/contained in the building were relocated to storage areas or other facilities at SRS as building deactivation activities.

5.02 Waste Disposal

Table 1: Waste Generation

Waste Classification	Waste Source	Disposed to	Total Volume
ACM	Friable asbestos- insulation, glazing, linoleum, & transite	Three Rivers Landfill	251.8 cu yd
ACM	Non-Friable asbestos	Three Rivers Landfill	360 cu yd
Non-Hazardous Solid Waste (Special)	Non-PCB ballasts and creosoted utility poles	Three Rivers Landfill	30.4 cu yd
Universal Waste	Assorted Lamps	Universal Waste Recycler – 725-1N Recycle Facility	0.8 cu yd
PCB	Ballasts	SRS HWSF*	0.2 cu yd
CSR	Wood, ductwork, conduit, miscellaneous piping, and job control waste	C&D Landfill	300 cu yd
Recycle Metals	Lead, steel, and aluminum	Salvage Yard for transfer to recycle metals vendor	480.3 cu yd

LLW – Low level radioactive waste
 ACM – Asbestos-containing material
 PCB – Polychlorinated biphenyl
 CSR – Clean Structural Rubble
 HWSF – Hazardous Waste Storage Facility

* Due to small volumes generated these wastes were consolidated with similar decommissioning wastes and are being managed in accordance with state and federal regulations until shipment to off-site treatment and disposal and/or recycle, as appropriate.

¹ “Asset Management Information System” is a SRS database/software for tracking government owned assets at SRS.

6.0 FINAL FACILITY CONDITION

6.01 Final Facility Condition and Remaining Hazards

All decommissioning activities are complete. Building 232-1H has been removed; all that remains is the concrete floor slab. All interfacing utilities were isolated, disconnected, and plugged. The degreaser pit was filled with CLSM to within six inches of the building floor slab and capped with a six-inch-thick, 4000 psi reinforced concrete slab. Other floor openings were filled with grout to achieve a uniform surface. Surrounding soil that was disturbed during decommissioning was graded uniformly.

The remaining structure is free of any physical, chemical, and radiological hazards.

See Appendix A of this document for before and after photographs of Building 232-1H.

6.02 Risk Assessment Summary

A review of the existing characterization data, process/building history, sample data and walk downs of the facility prior to decommissioning supported the determination that this building met the criteria of a Clean Building, Simple Model as described in Manual 1C, Procedure 501.

This decision was supported by the documentation found in the FDE (Reference 8.01). No chemical or hazardous radioactive materials were associated with this structure other than commonly used materials of construction, which were managed as waste during demolition in accordance with established SRS practices. The amounts of such materials were described in Section 5.02 of this report. Since there was no evidence of contamination on the slab either before or after structure demolition, no final verification survey was required.

6.03 Post Decommissioning Requirements

The remaining structure is free of physical, chemical, and radiological hazards; therefore, it needs no further decommissioning action. No surveillance and maintenance (S&M) activities were identified for the remaining structure, because it poses no threat to human health or the environment while awaiting area completion.

7.0 CONCLUSIONS/RECOMMENDATIONS

Building 232-1H was demolished, and the foundation has been left in place. All decommissioning activities have been completed, including waste disposal in accordance with federal and state regulations. The remaining structure is free of physical, chemical, and radiological hazards; therefore, it needs no further decommissioning action or evaluation. No S&M activities were identified for the remaining structure, because it poses no threat to human health or the environment while awaiting area completion.

In accordance with the "Memorandum of Agreement for Achieving an Accelerated Cleanup Vision at the Savannah River Site," this report will be maintained as a record for reference and use in the H-Area Completion, Record of Decision. To ensure facility remnants are addressed during the completion process, Building 232-1H should be added to Appendix K.2 of the Federal Facility Agreement for the SRS.

8.0 REFERENCES

- 8.01 J. K. Blankenship, "Facility Decommissioning Evaluation Building 232-1H, Warehouse, Tritium Facility", G-FDE-H-00004, Revision 0, July 26, 2017.
- 8.02 B. T. Hennessey to S. B. Fulmer and R. H. Pope, ARF-021229, August 3, 2017, "SUBJECT: Facility Decommissioning Evaluation Building 232-1H, Warehouse, Tritium Facility (G-FDE-H-00004, Revision 0, July 26, 2017) Simple Model".
- 8.03 G. N. O'Quinn to B. T. Hennessey, ARF-021268, September 22, 2017: "RE: Facility Decommissioning Evaluation(FDE): Tritium Facility Warehouse, Building 232-1H, G-FDE-H-00004, Revision 0, July 26, 2017 (Cover letter dated August 3, 2017)".
- 8.04 Jon Richards to B. T. Hennessey, ARF-021272, October 10, 2017: "EPA Approval Facility Decommissioning Evaluation Building 232-1H, Warehouse, Tritium Facility (G-FDE-H-00004, Revision 0, July 26, 2017), Savannah River Site, Aiken, South Carolina".
- 8.05 J. K. Blankenship, "Decommissioning End Points Document, Building 232-1H, Warehouse, Tritium Facility", V-PMP-H-00038, Revision 0, July 26, 2017.
- 8.06 J. K. Blankenahip, "Completion of Decommissioning End Points for Building 232-1H, Warehouse, Tritium Facility", V-PCOR-H-00011, Revision 0, January 2, 2019.

9.0 APPENDICES

Appendix A - Photographs

Appendix A – Photographs



Photo 1 – Building 232-1H Before Decommissioning (Looking North)

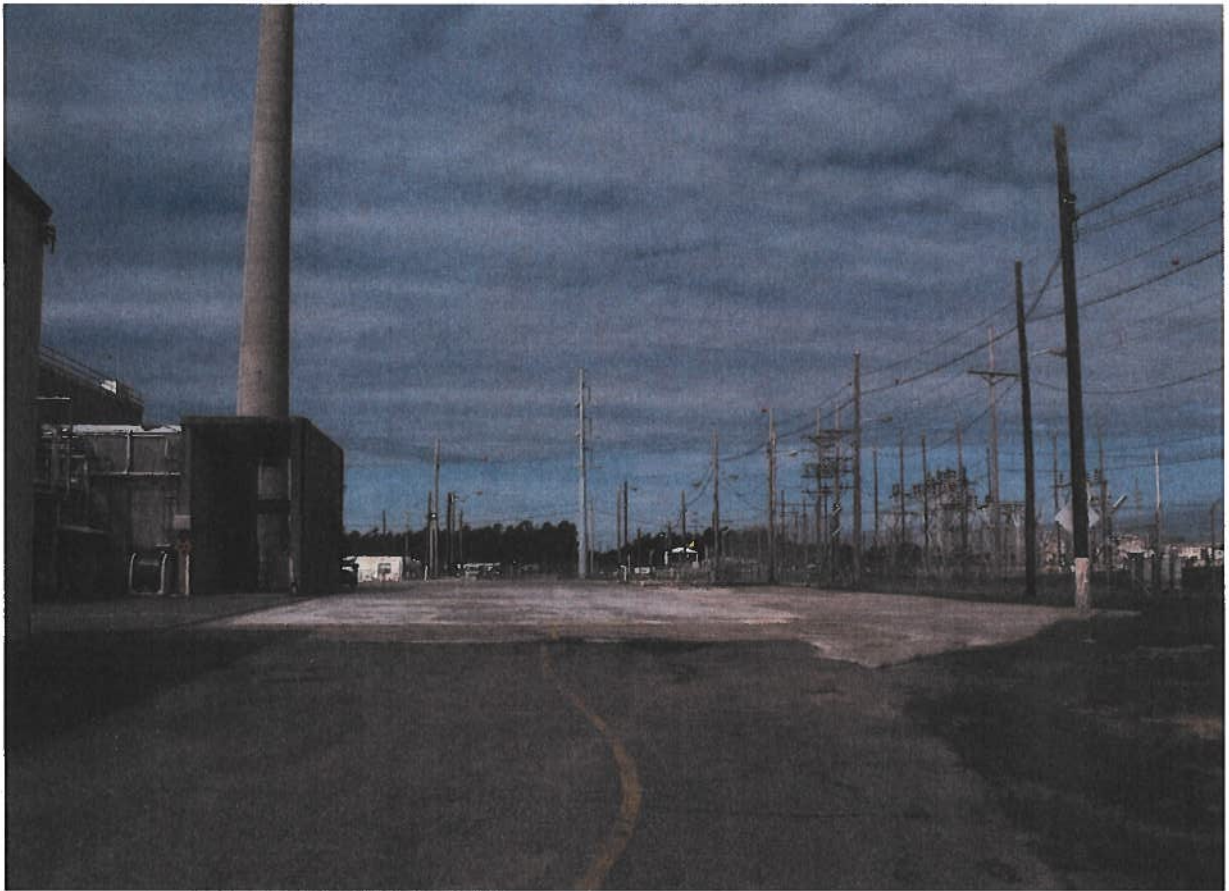


Photo 2 – Building 232-1H After Decommissioning (Looking North)