<table>
<thead>
<tr>
<th>Project Name:</th>
<th>OR-K-892 Cooling Water Pumphouse and Sludge Softener -D&amp;D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name (Expanded)</td>
<td>Oak Ridge K-892 Cooling Water Pumphouse and Sludge Softener -D&amp;D [Demolition of a 23,202 SF domestic/fire water system supply water pumphouse and associated equipment; and adjacent 1,350 Maintenance Facility, both containing asbestos but radiologically uncontaminated]</td>
</tr>
<tr>
<td>Project Type:</td>
<td>Building / Facility D&amp;D Project Type</td>
</tr>
<tr>
<td>FIMS Hazardous Category:</td>
<td>12 Not applicable (previous Building Type 1)</td>
</tr>
<tr>
<td>Project Type Detail:</td>
<td>Transite/High Asbestos Non-Radioactively-Contaminated Building</td>
</tr>
<tr>
<td>Supplementary Reference Documents</td>
<td>Form OR F 4300.1, “Request for Authority to Dispose of Improvements Located on Non-Excess Land,” (“Demolition and Disposal of Twenty-Two Facilities at ETTP” – BJC memo, 3/13/03)</td>
</tr>
<tr>
<td></td>
<td>UCOR-14-1434 Special Waste Evaluation Application for K-892 Building Debris</td>
</tr>
<tr>
<td></td>
<td>UCOR-15-0435 URS- CH2M Oak Ridge LLC Completion of Fee Bearing Performance</td>
</tr>
</tbody>
</table>

**Site Context:**

This project falls under the Defense Remedial Action WBS (identified as OR-0040.C, Nuclear Facility D&D-ETTP in PARS); this work was associated with, but not included in, WBS elements from the American Recovery and Reinvestment Act of 2009 WBS (identified as OR-0040.R in PARS). The projects include and preparation for decontamination and decommissioning (D&D); D&D of buildings and associated structures to grade or slab; removal or stabilization of below grade structures; remediation of burial grounds, contaminated soils and below grade structures; as well as monitoring and treatment of groundwater. Supporting projects include surveillance and maintenance and waste operations including construction, reconfiguration and demolition of select waste management facilities.

ETTP (then K-25) began operations during World War II as part of the Manhattan Project. Its original mission was to produce enriched uranium for use in atomic weapons, but at the end of the war, the plant’s mission evolved. From 1945 to 1985, it produced enriched uranium for the commercial nuclear power industry and in 1987, it was permanently shut down. Restoration of the environment, decontamination and decommissioning of the facilities, and management of the legacy wastes have since been major activities. Major contaminants include uranium (various isotopes), mercury, beryllium, and organic constituents. The industrial, or “impacted” areas of the site is about 800 acres, with several large (>1M SF) GDP buildings, and several hundred associated laboratory, centrifuge, and support facilities. There were numerous environmental releases and on-site radioactive material burial grounds, some including classified materials. Certain areas require high levels of security (Protected Areas) based on centrifuge and GDP.
technology. The prime contractor, currently URS/CH2M Oak Ridge, manages or provides technical oversight for environmental projects, although some were contracted through a DOE IDIQ contract.

ECAS Level 4/Parent Project Context:
The actual parent project grouping would be to include all of the WBS components associated with the UCOR cleanup contract. For ECAS purposes the Parent Project group has been identified as those UCOR/ETTP projects that were identified as potential projects for this (2017) ECAS database addition. Note that the ECAS projects identified below are contained under several different higher-level WBS elements.

- OR-Chromium Water Treatment System Install & Startup-WM
- OR-CNFD-Closure-D&D
- OR-ETTP 26 Building Characterization (ORISE)-D&D
- OR-K-1065 RCRA Closure A, D & E-D&D
- OR-K-1070B BG-ER
- OR-K-27 Decommissioning-D&D
- OR-K-31 Demolition-D&D
- OR-K-31/K-33 Removal Action-D&D
- OR-K-33 Slab & Soils-D&D-R (renamed in 2017)
- OR-K-731 Building-D&D
- OR-K-732 Switchyard-D&D
- OR-K-892 Cooling Water Pump House and Sludge Softener - D&D
- OR-TSCA Incinerator RCRA Closure-D&D
- OR-Zone 2 Exposure Unit 28-ER

Two ETTP ECAS Projects were previously developed and included in the ECAS database under the ECAS ARRA data collection program in 2011. These projects were conducted by both UCOR and the previous contractor (BJC) and should properly be included under this Parent Project.

- OR-K-27 Pre-Demolition-D&D-R
- OR-K-33 Structure-D&D-R

D&D Facility Data:
Facilities (FIMS data where possible):

<table>
<thead>
<tr>
<th>Building (Property ID)</th>
<th>Title (Property Name)</th>
<th>Area (SF)</th>
<th>Year Built</th>
<th>Contamination Category</th>
<th>Hazard Category</th>
<th># of Floors</th>
</tr>
</thead>
<tbody>
<tr>
<td>892</td>
<td>K-892 PUMPHOUSE &amp; LAYDOWN AREA</td>
<td>23,202</td>
<td>1954</td>
<td>Not Given</td>
<td>12 Not Applicable</td>
<td>1</td>
</tr>
<tr>
<td>892-Y</td>
<td>Maintenance Bldg.</td>
<td>1,350</td>
<td>1984</td>
<td>Not Given</td>
<td>12 Not Applicable</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Building (Property ID)</th>
<th>Title (Property Name)</th>
<th>Asset Type</th>
<th>RPV Description</th>
<th>Usage Code</th>
<th>Disposition Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>892</td>
<td>K-892 PUMPHouse &amp; LAYDOWN AREA</td>
<td>501 Buildings</td>
<td>Warehouse/Storage(pre-eng)</td>
<td>694 Other Service Buildings</td>
<td>02/23/2015</td>
</tr>
</tbody>
</table>
Construction Details:
There was no information or drawings provided directly on the K-892 and K-892-Y construction type or materials. However, pictures suggest that they were mostly steel frame with transite siding and high bay portions (ceiling heights greater than 25 feet), with some areas of masonry on concrete slabs. It consisted of three sections. The northwest section contained water treatment chemical tanks and feed equipment; the east section contains pumps, piping, and valves; and the south section contained electrical equipment, and chemical and diesel fuel storage tanks. The facility and associated process equipment were deteriorated. Auxiliary improvements demolished included storage basins; storage tanks; adjacent valve houses and pits; and a sludge handling, thickening, and fixing facility. Contaminants of concern included PCBs, lead in paint, and hazardous chemical residues in piping and equipment.

Facility Use:
The K-892 (Fire and Raw cooling Water) Pumphouse was built in 1954 to pump treated water for the recirculating cooling water system of a gaseous diffusion process building. Shut down in 1989. Building K-892-Y was assumed to be a facility use by the maintenance support organization.

Processes causing contamination:
No reported radiological contamination; asbestos, universal waste, and corrosives/metals from building materials and water treatment/corrosion inhibitor chemicals. No RCRA-listed waste.

Contaminants of concern (including extent of contamination by major contaminant):

<table>
<thead>
<tr>
<th>Building</th>
<th>Chemical Hazard</th>
<th>Location/Extent</th>
<th>Radiological Hazard</th>
<th>Location/Extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>K-892 and K-892-Y</td>
<td>Asbestos, Sub-TCLP chromates and metals, and PCBs</td>
<td>Multiple, including roofing material, panels, tiles &amp; insulation.; various areas, and equipment</td>
<td>Minimal Radiological Contamination</td>
<td></td>
</tr>
</tbody>
</table>

Pictures of Buildings:
Building K-892

K-892 Before Demolition (Looking East)

Building K-892-Y
D&D Project Execution

Site WBS Organization within the ECAS Project Scope:
The D&D of the Buildings K-892 and K-892-Y was organized by function (i.e., project management, characterization, demolition, etc.) and the building costs were not segregated.

Methods of execution:
Management: The scope was planned, managed, and executed as a single element.

Regulatory: The project was performed in accordance with the requirements of the Federal Facility Agreement for the Oak Ridge Reservation and an Action Memorandum for a time-critical removal action which was prepared by DOE-EM. A Waste Handling Plan including a Sampling and Analysis Plan, as well as characterization, preparation of waste profiles, sorting/segregation, and size reduction prior to transportation to an approved disposal site was included in this work scope. A Special Waste Evaluation Application was prepared to allow the waste to be disposed at the Y-12 sanitary waste landfill. Some waste was shipped to an approved off-site facility for treatment and/or disposal. This project had minimal regulatory input because the buildings were largely uncontaminated.

Physical Approach: The prime contractor initially removed, packaged, and dispositioned any legacy materials that had to be removed prior to demolition. The characterization was performed to support the development of waste profiles and work packages. In-ground piping was isolated, capped and grouted. Subcontractors and site crafts performed the asbestos abatement, removed transite panels, and removed any universal waste to allow the demolition waste to be dispositioned at the Y-12 Landfill. Site crafts demolished the facilities to slab-on-grade and transported the demolition debris to the appropriate disposal location.

Technologies: The contractor used standard asbestos abatement and demolition technologies (e.g., glovebags/plastic/water sprays and excavators).

Activities self-performed:
- All management and key technical positions along with a portion of the technical staff
• Waste management
• Used significant professional services contracted (i.e., seconded) labor inter-mixed with prime contractor staff

Activities subcontracted:
• While subcontractors were used, most appear to be in-house subcontractors performing small portions of work without specific significant scope (e.g., asbestos abatement, demolition).

Issues that impacted the project:
• Minor winter weather delays, minor scope discrepancies that largely canceled each other out.

Scope Growth:
No identified scope growth

Notes Regarding Use of Data
• Assumption: no ancillary structures or valve vaults other than adjacent to the perimeter of the buildings we included in this scope