



River Corridor Closure Project

One Team for Safe, Visible Cleanup of the River Corridor

February 2013

300 Area Cleanup Progress

Washington Closure Hanford completes cleanup work in north section of fuel development complex

Background

For nearly 60 years, the 300 Area was the center of Hanford’s radiological research, development and fuel fabrication activities. The site is located about one mile north of Richland adjacent to the Columbia River. Work conducted in the 300 Area resulted in highly contaminated facilities and waste sites, and a large inventory of radioactive material – making the 300 Area one of the most complex and hazardous cleanup projects along Hanford’s river corridor.

Washington Closure Hanford (WCH) began cleaning up the 300 Area in 2005. In February 2013, WCH met a Tri-Party Agreement milestone by completing cleanup of all facilities and waste sites north of Apple Street, which crosses the center of the 300 Area.

333 Building

The 333 N Fuels Fabrication Building, located in the north central portion of the 300 Area, was used from 1960 to 1987 as the primary fuel fabrication facility in support of N Reactor. The building was equipped to provide a wide variety of non-destructive and destructive tests on fuel elements. It contained equipment designed to “jacket” uranium metal cores inside a Zircaloy-2 (an alloy consisting primarily of zirconium with small amounts of tin, iron, chromium and nickel) shell as well as facilities for inspecting raw materials and finished fuel elements. The process used within the 333 Building was known as the coextrusion process, where the Zircaloy-2 and uranium components were extruded at the same time to achieve a stronger bond. The N fuel elements consisted of inner and outer annular fuel



The north section of the 300 Area contained numerous highly contaminated facilities and waste sites.

300 Area North
Facilities – 98
Waste sites – 58
1.1M tons removed
300 Area Overall
Facilities – 167
Waste sites – 116



The Loewy Extrusion Press is removed from its foundation. The 2,750-ton press was housed in the 333 Building.



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elements that were bolted together, which allowed cooling water to pass through the fuel element for more efficient cooling. Washington Closure demolished the building in 2006.



Workers demolished the 384 Building in 2008.

384 Building

In 2008, WCH completed demolition of the 384 Building, known as the Power House and the Heating Plant. The building was constructed in 1943 to provide process and heating steam and compressed air to the 300 Area. Demolition of the above-grade portions of the 384 Building was completed in May of 2008. The demolition of below-grade structures was completed in March of 2010.

618-1 Burial Ground

In 2009, WCH completed cleanup of one of Hanford's earliest burial grounds – the 618-1 Burial Ground – which was located in the northeast corner of the



Cleanup of the 618-1 Burial Ground was part of a TPA milestone.

300 Area. The burial ground was used from 1945 through 1951 primarily for the disposal of solid waste from early 300 Area operations. Several facilities were built over the top of portions of the burial ground after it ceased operation. The site also contained hazardous materials discharged from structures built over the burial ground's waste trenches.

During the course of cleanup, workers removed approximately 52,000 tons of material from the burial ground. Waste encountered during excavation consisted mostly of contaminated soil, metal pipe, crucibles, laboratory glassware, empty metal containers, and some land disposal restricted material. Twenty metal drums containing personal protective equipment and several bottles containing liquid and/or powder also were removed from the site.

300-15 Waste Site

WCH completed cleanup of the 300-15 waste site north of Apple Street in 2012. The waste site contained an underground process sewer system that extended throughout the 300 Area and was both radioactively and chemically contaminated. The underground piping was used for the disposal of process wastes such as steam condensate, cooling water and non-regulated liquids. The site included manholes, diversion boxes, sludge pumping equipment, sludge pits, septic tanks, retention basins, and associated pipelines and trenches.



More than 8,000 feet of pipe was removed from 300-15. Facilities associated with the process sewer line dumped beryllium liquid waste down drains, creating challenges for the cleanup team.

Washington Closure Hanford is a limited liability company owned by URS, Bechtel National and CH2M Hill. It manages the River Corridor Closure Project for the U.S. Department of Energy's (DOE's) Richland Operations Office. The River Corridor is a 220-square-mile area along the Columbia River in southeastern Washington state that was home to nine plutonium production reactors, fuel development facilities, and hundreds of support structures. The project is DOE's largest environmental cleanup closure project.