



Heavy cutting equipment was used on the 333 Building to minimize worker risk and accelerate the demolition schedule.



The \$2.2 billion, eight-year Hanford RCC Contract includes the decontamination, deactivation, decommissioning and demolition of 486 buildings at the Hanford site near the scenic Columbia River. Employees recently celebrated the demolition of 100 buildings in two years.

## Demolition innovation

### 100 buildings demolished in two years

Employees working on the Hanford River Corridor Closure Contract in Richland, Washington, recently celebrated the demolition of 100 buildings in two years. Considering that it took the previous contractor 11 years to demolish 40 buildings, this is no small feat. The 333 Building demolition was one of the most significant, completed 12 months ahead of schedule and \$9.1 million under budget, with zero accidents or regulatory violations.

The 333 Building was built in the early 1960s to fabricate metallic fuel for plutonium production in the N Reactor at the Hanford site. The 57,000-square-foot steel and insulated metal panel structure was a particular challenge because of extensive beryllium and uranium contamination, hazardous materials and the multitude of heavy, bulky equipment it housed. In addition, the demolition was scheduled for the summer months, when desert temperatures can exceed 100 degrees Fahrenheit (38 degrees Celsius).

A multidisciplinary team tackled the challenge, implementing innovative safety, planning and demolition practices. The team adopted an overall philosophy of reducing worker exposure and risk by using heavy equipment or innovative safety practices whenever possible.

### Integrated work control program saves time, increases safety

A new integrated work control program piloted on this project was such a success that it has been implemented sitewide. The program uses multi-disciplinary teamwork and worker involvement to help identify and analyze work-site hazards, develop the work package, perform work and identify new hazards. The teams include representatives such as craft supervisors, pipefitters, electricians, nuclear operators, riggers, insulators, waste samplers, radiation control technicians, industrial hygienists and a safety representative. The team approach allows the collective identification and analysis of hazards to be performed concurrently with work package development. The work packages are developed and approved for release using a graded approach based on risk and complexity of hazards and worker competence.

The program and the collaborative client relationship maintained throughout the project were major contributors to successful completion. The program was so successful it was adopted sitewide. The client, the U.S. Department of Energy, collaborated with employees at every level of the project, from providing opportunity for improvement suggestions in audits to attending and participating in many plan-of-the-day meetings.

The result of all this innovation and teamwork? The 333 Building demolition was accomplished safely in eight months instead of the allotted 20 months, and for \$1.4 million rather than the estimated \$10.5 million. That's something worth celebrating.

### Generations bring about change at Hanford

Three generations of the Murbach family have worked at Hanford for 46 years. All followed in the footsteps of Walt Richardson, grandfather of the clan, as insulators on the site. Richardson's son, Robert Murbach, started at the site in the early 1960s, and sons Jim and Scott followed suit. Another son, Gary, works on other Hanford projects, but sometimes lends a hand with the Hanford RCC work. Gary once found his grandfather's signature on the insulation of a hot water tank in a building that was being decommissioned. Because of the demolition, the third generation is now often removing insulation their forefathers installed. "It's kind of sad to see it go—all the hard work that's gone into building them, all the craftsmanship," Scott Murbach said. With the continuing work at the site, the next generation of Murbachs will see the Hanford site restored to a scenic, safe landscape.



The 333 Building demolition crew used innovative work and safety techniques to bring down the contaminated structure in less than half the estimated time and for a mere 13.3 percent of the estimated cost.