

Safety and Explosives a Factor in N Reactor Cleanup

Explosive charges will be used to demolish a 200-foot-tall stack at Hanford's N Reactor and massive steam generating components in the adjacent steam powerhouse. The work is expected to be done June 21-22. The structures are approximately 45 miles north of Richland, Washington, and located along the southern bank of the Columbia River.

The use of explosives will reduce worker exposure to industrial risks associated with demolition work as crews systematically reduce the footprint of the N Reactor facilities. Using explosives is essentially the same cost as conventional demolition techniques; however, it reduces numerous hazards at the powerhouse and provides the safest option for workers.

Background on Facilities

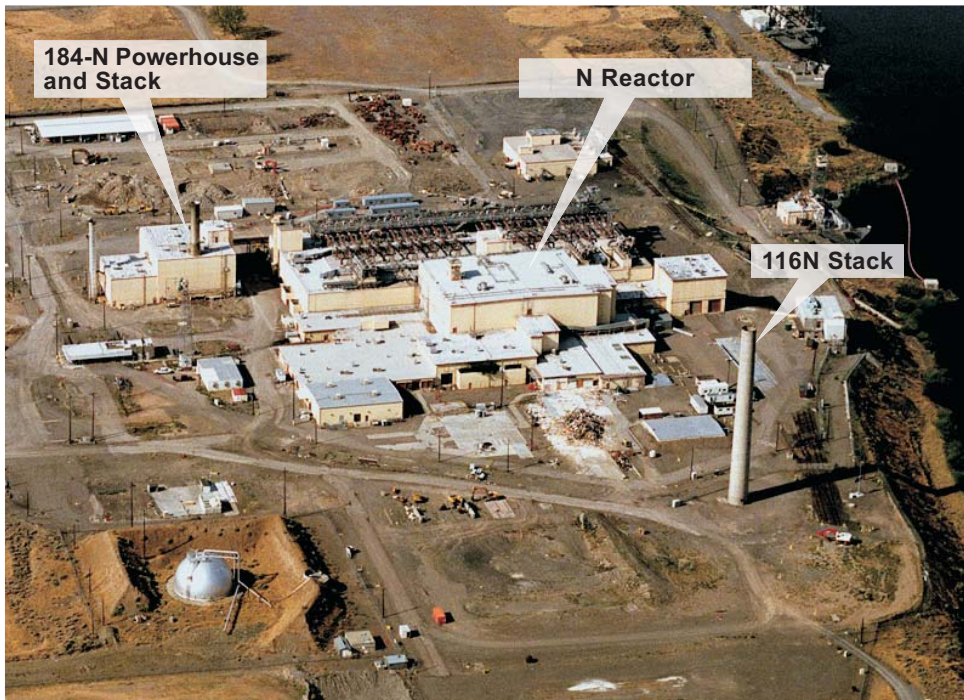
N Reactor was used to produce plutonium for weapons and steam to generate electricity. It operated from 1964-87. The reactor was the only dual purpose co-generation nuclear reactor of its kind in the United States and was officially shut down in 1989. Hanford's N Reactor was the last of nine nuclear plutonium production reactors to operate during World War II and the Cold War.

The **184-N Powerhouse** is a steel structure with steel siding and is 70 feet tall. Inside, a turbine generator the size of two large SUVs is supported by cement pedestals. The powerhouse also includes process equipment such as a boiler, condenser, fuel heating and pumping systems, and compressors. Several of the components pose unacceptable

safety hazards for conventional demolition practices. The facility also contains an exhaust stack that stands 70 feet above the roofline of 184-N and will be dropped like a tree with explosives.

The **116-N stack** is made of reinforced concrete and stands 200 feet above ground level – clearly the tallest structure at the 100-N Area. Located about 100 yards east of the reactor, the 116-N stack is connected by an underground tunnel to the reactor. The tunnel has been blocked off to prevent dust from pushing into the reactor building when the stack collapses.

The facilities were surveyed and tested for hazardous and radioactive contamination and meet regulatory safety standards for demolition.



Hanford's 100-N Area - WCH is removing structures for eventual cocooning of the reactor.

The Challenge

The workers face distinct challenges as they prepare the site by removing asbestos and hazardous materials in and around the structures. Months of extensive preparations take place before demolition begins. The deactivation work is essential to ensure the safety of workers and protect the environment during demolition.



Using explosives on complex and heavy components inside the powerhouse reduces worker risks.

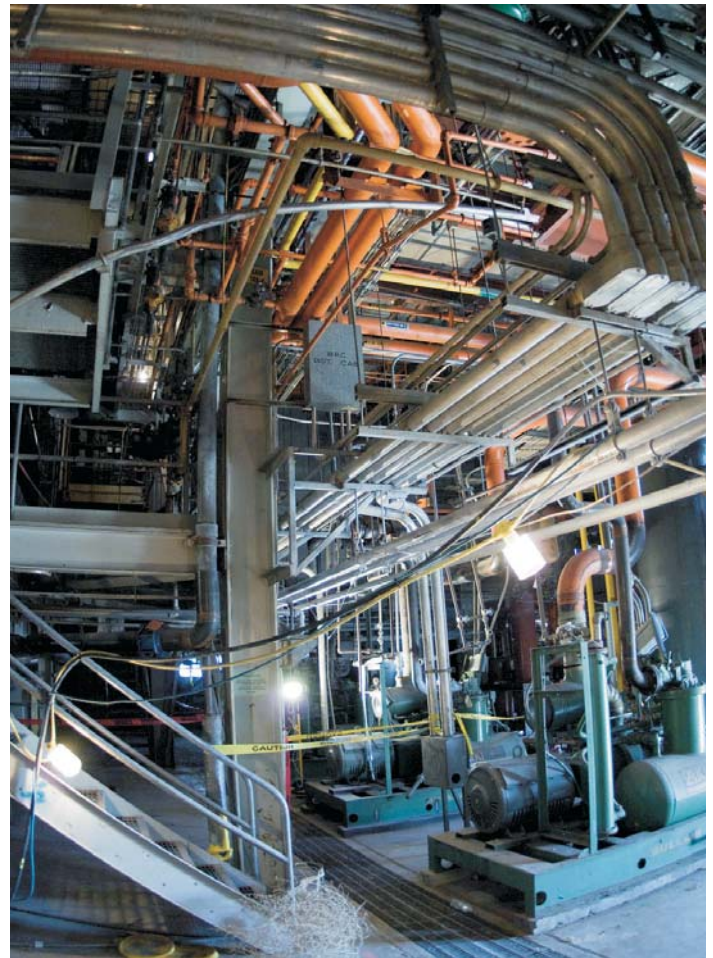


Turbine generator at 184-N

Safety First

To ensure safe demolition and cleanup of the debris sites, the Washington Closure team is applying its experience and lessons learned from previous demolitions at Hanford and other Department of Energy sites.

To maximize safety, non-project workers and members of the public are not allowed near the area during demolition. The detonation will be coordinated with appropriate local, state and federal agencies.



Interior of the 184-N Powerhouse

This River Corridor Closure Project is removing contaminated structures and soil – protecting the Columbia River and the public from the legacy waste produced at Hanford during World War II and Cold War.