THE HANFORD SITE

Reactors in Interim Safe Storage

Fact Sheet – January 2024

Background

Between 1943 and 1963, nine plutonium-production reactors were constructed on the Hanford Site along the Columbia River in Washington state as part of the nation's Manhattan Project. The last reactor was shut down in 1987, at the end of the Cold War. The reactors were then deactivated and decommissioned, and the support facilities demolished, in accordance with a federal *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) removal action.

Six of the nine reactors (C, D, DR, F, H and N) were placed in Interim Safe Storage (ISS) between 1998 and 2012. ISS for these reactors consisted of removing hazardous materials from the reactor building, demolishing support facilities and sealing all openings to the reactor building. A steel roof designed to last 75 years was installed to prevent deterioration of the building and release of contamination while in ISS. This process provides an environmentally secure and cost-effective approach to safeguarding human health and the environment until final disposition of the reactors.

The seventh reactor, K East, was placed in ISS in October 2022. The ISS process for K East was the same as the other reactors except instead of a roof, a full steel enclosure was built around the reactor building. A similar enclosure is planned for the eighth reactor, K West, when it is placed in ISS, which is projected to be completed by 2032. Hanford's ninth reactor, B Reactor, was the world's first full-scale nuclear reactor and has been designated a National Historic Landmark and will not be placed in ISS.

Long-Term Stewardship Program

All seven reactors placed into ISS have been transitioned into the Long-Term Stewardship (LTS) Program. Under the LTS Program, the reactors are inspected externally every year and internally every 6 to 10 years to ensure facility conditions have not degraded. Much of the land surrounding the reactors in ISS has also been transitioned to the LTS Program.

Surveillance and Maintenance

Surveillance and Maintenance activities are performed in accordance with the *Hanford Federal Facility Agreement and Consent Order* (aka Tri-Party Agreement) and CERCLA post-remediation requirements to ensure the reactors in ISS are maintained in a safe, environmentally secure and cost-effective manner. These activities are required to be performed (up to 75 years) until final disposition of the reactors.

K East Reactor in 2020.

K East Reactor in October 2022, after Interim Safe Storage.

N Reactor in 2005.

N Reactor in 2015, after Interim Safe Storage.

Reactors in Interim Safe Storage (cont.)

REACTORS IN INTERIM SAFE STORAGE, AT A GLANCE

C REACTOR

Construction began in 1951 and the reactor operated until 1969. It was the sixth reactor constructed on the Hanford Site and the first to be fully decommissioned and placed into ISS. The ISS process began in August 1996 and was completed in September 1998.

D REACTOR

Construction began in 1943 and the reactor operated until 1967. It was the second reactor constructed and was one of the longest-serving facilities, at 22 years of service. It was the fourth reactor to be fully decommissioned and placed into ISS. The ISS process began in January 2000 and was completed in September 2004.

DR REACTOR

Construction began in 1947 and the reactor operated until 1964. It was the fifth reactor constructed and it operated for the shortest amount of time: 14 years. It was second reactor to be fully decommissioned and placed into ISS. The ISS process began in January 1998 and was completed in September 2002.

F REACTOR

Construction began in 1943 and the reactor operated until 1965. It was the third reactor to be fully decommissioned and placed into ISS. The ISS process began in January 1998 and was completed in September 2003.

H REACTOR

Construction began in 1948 and the reactor operated until 1965. It was the fourth reactor constructed and the first after World War II. It was the fifth reactor to be fully decommissioned and placed into ISS. The ISS process began in April 2000 and was completed in October 2005.

K EAST REACTOR

Construction began in 1953 and the reactor operated until 1971. It was the seventh reactor to be fully decommissioned and placed into ISS. The ISS process began in June 2021 and was completed in October 2022.

N REACTOR

Construction began in 1959 and the reactor operated until 1987. It was the last reactor constructed and was a dual-purpose reactor, also producing electricity. It was the sixth reactor to be fully decommissioned and placed into ISS. The ISS process began in January 2007 and was completed in September 2012.