



Engineering Evaluation/Cost Analysis Fact Sheet

Cleanup of the D and H Reactor Facilities

U.S. Department of Energy • U.S. Environmental Protection Agency • Washington State Department of Ecology

REQUEST FOR PUBLIC COMMENT

The U.S. Department of Energy (DOE), the Washington State Department of Ecology (Ecology), and the U.S. Environmental Protection Agency (EPA) (the Tri-Parties), invite you to comment on the *Engineering Evaluation/Cost Analysis for the 105-D Reactor Facility and Ancillary Facilities*, DOE/RL-2000-45, and *Engineering Evaluation/Cost Analysis for the 105-H Reactor Facility and Ancillary Facilities*, DOE/RL-2000-46. The engineering evaluation/cost analyses (EE/CAs) evaluate alternatives for final disposition of the D and H Reactor Facilities and four ancillary facilities located in the 100-D/DR and 100-H Areas of the Hanford Site.

A 30 day public comment period is being held from August 21 to September 19, 2000. All public comments will be considered by the Tri-Parties before a final decision is made. If you would like to review the documents, please visit one of the information repositories listed in this fact sheet.

Background

The 100-D/DR and 100-H Areas are located at the northern end of the Hanford Site, along a section of the Columbia River known as the Hanford Reach, in southeastern Washington. The 100-D/DR Area includes the D Reactor Facility, which operated from 1944-1967, and two ancillary facilities (the 103-D Unirradiated Fuel Storage Building and 190-DR Process Water Pumphouse). The H Reactor Facility, which operated from 1949-1965, and two ancillary facilities (the 1713-H Warehouse and 1720-HA Arsenal), are located in the 100-H Area. These facilities became contaminated with chemical and radiological hazardous substances during reactor operations. The facilities were deactivated in the late 1960s and some have been used as storage facilities since deactivation. These facilities have not been fully decontaminated, and as the buildings deteriorate it becomes more difficult to prevent site workers from being exposed to contaminants, as well as increasing the potential threat

To request copies of the documents, or to submit comments in a written or electronic format, please contact:

Tina Masterson-Heggen
 Washington State Department of Ecology
 1315 W 4th Avenue
 Kennewick, WA 99336-6018
 (509) 736-5701
 e-mail: tmas461@ecy.wa.gov

of a release of contaminants to the public or the environment.

In 1993, a final environmental impact statement was issued under the National Environmental Policy Act (NEPA) that evaluated decommissioning eight of the nine surplus reactors at the Hanford Site. Subsequently, the environmental impact statement record of decision documented that DOE selected interim safe storage of the reactors followed by deferred one-piece removal of the reactor block and disposal at the Hanford Site's 200 West Area as the preferred decommissioning alternative. Interim safe storage includes decontamination and demolition of reactor facilities up to the shield walls that surround the reactor block, construction of a safe storage enclosure and a reduced schedule of surveillance and maintenance. The EE/CAs

support the environmental impact statement decision by providing an evaluation of safe storage alternatives for the D and H Reactors. Additionally, the interim safe storage project of Hanford's C Reactor was completed, and interim safe storage projects for the F and DR Reactor facilities are currently in progress, consistent with the environmental impact statement. Some of the descriptions, waste volume estimates, and cost estimates used in the EE/CAs are based on actual experience at the C, DR, and F Reactor Facilities.

What cleanup actions were evaluated?

In addition to the preferred cleanup action, two other removal action alternatives were evaluated in these EE/CAs, which are summarized below. Because of the inability of these alternatives to provide overall protection of human health and the environment, and cost considerations, they were not considered as desirable as the preferred cleanup option.

- **No Action:** With the no action alternative, Hanford Site access controls would be maintained to help prevent personnel or worker entry to contaminated facilities. No other specific controls would be established for facilities covered by these EE/CAs. Because the contaminated facilities would not be cleaned out, and no action would be taken to stop the facilities from deteriorating, there is a likelihood that a release would eventually occur, potentially exposing site workers, the public, and the environment to chemical and/or radiological contamination.
- **Long-Term Surveillance and Maintenance:** The goal of the long-term surveillance and maintenance alternative would be to sustain the facilities in a safe condition for up to 75 years until final disposition, that would consist of decontamination and demolition. To the extent possible, surveillance and maintenance would be performed to minimize the potential for an environmental release and protect the workers while maintaining compliance with standards in State and Federal regulations and DOE orders. However, the contamination would remain in place. As the facilities continue to age and deteriorate, requirements necessary to maintain safe conditions would increase. As costs increase, long-term surveillance and maintenance becomes less viable. Also, it may not be cost-effective to

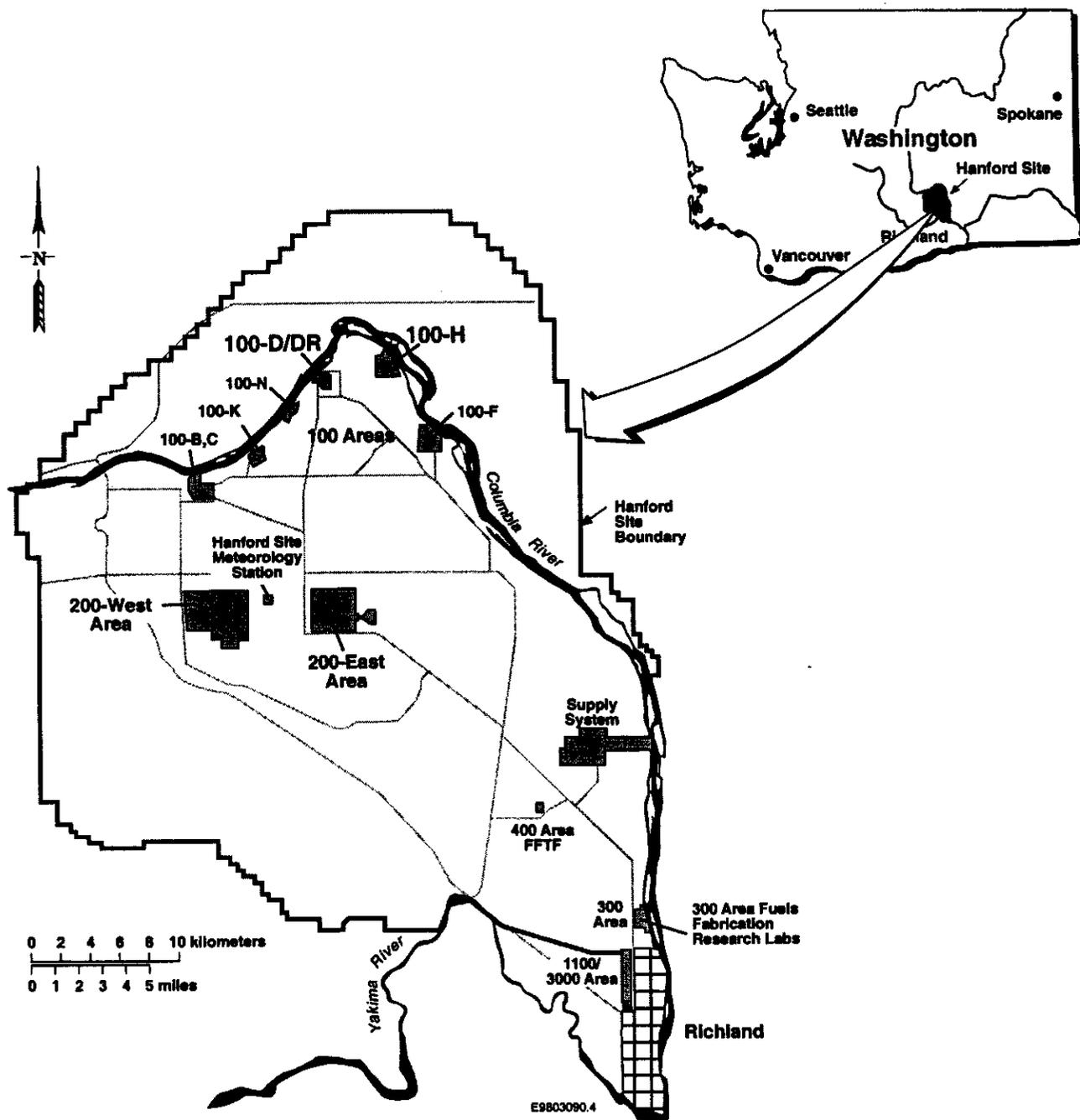
prolong the surveillance and maintenance period for a full 75 years (estimated cost for a 75-year period of surveillance and maintenance is approximately \$10 million for each reactor area). Within 75 years, the facilities would need to be decontaminated and demolished. The cost for the decontamination and demolition (within the 75 years) is estimated at approximately \$21 million. Therefore, the total cost for the long-term surveillance and maintenance alternative for each reactor would be approximately \$31 million. These costs do not account for costs that would be incurred for cleanup activities if contamination from the facilities was released to the environment.

What is the preferred cleanup action?

Based on the ability to provide protection of human health and the environment, and its effectiveness in maintaining that protection in the long-term, the preferred removal action is as follows:

- Decontaminate and demolish the four ancillary facilities.
- Decontaminate and demolish the D and H Reactor facilities up to the shield walls that surround the reactor blocks.
- Construct safe storage enclosures over the remaining reactor blocks.
- Dispose of contaminated waste generated from these actions at the Environmental Restoration Disposal Facility (in accordance with waste acceptance criteria), or at an appropriate disposal facility. If the waste meets cleanup standards or authorized release limits, the material will be left in place.

The total estimated cost of the preferred removal action for D Reactor Facility and ancillary facilities is approximately \$22 million; and for the H Reactor Facility and ancillary facilities is approximately \$23 million. (Preparation and transportation of the reactor blocks to the 200 Area Plateau was not included in the cost estimates, and are not part of this removal action.)



Hanford Public Information Repository Locations:

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Portland State University
 Branford Price Millar Library
 934 SW Harrison
 Attn: Michael Bowman (503) 725-3690

SEATTLE

University of Washington
 Suzzallo Library
 Government Publications
 Attn: Eleanor Chase (206) 543-1937

RICHLAND

U.S. Department of Energy
 Public Reading Room
 Washington State University, CIC Room 101L
 2770 University Drive
 Attn: Terri Traub (509) 372-7443

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