THE HANFORD SITE

EXTENDED PUBLIC COMMENT PERIOD:
Proposed Cleanup Plan for Groundwater and Waste Sites in Hanford's 100-BC Area

Fact Sheet

GET INVOLVED

Comment Period
Oct. 7 – ~~Nov. 6~~ Dec. 9, 2019

Administrative Record
https://go.usa.gov/xVAU2

Send comments by ~~Nov. 6~~ Dec. 9, 2019 to
100BCAreaPP@rl.gov

Questions?

Jennifer Colborn, MSA
(509) 376-5840
Jennifer_M_Colborn@rl.gov

Laura Buelow, EPA
(509) 376-5466
Buelow.Laura@epa.gov

The U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) are holding a ~~30-day~~ 60-day public comment period on a proposed long-term cleanup plan for groundwater and waste sites in Hanford's 100-BC Area.

Hanford Site Background

The Hanford Site is in southeastern Washington state along the Columbia River. The 580-square-mile site was created in 1943 as part of the Manhattan Project to produce plutonium for the nation's defense program. Today, waste management and environmental cleanup are the main missions at Hanford.

About the Proposed Plan

DOE has developed a proposed cleanup plan under the *Comprehensive Environmental Response, Compensation and Liability Act* (CERCLA) to address remaining soil and groundwater contamination in the 100-BC Area. The proposed plan covers 112 waste sites and groundwater in the 100-BC-1, 100-BC-2 and 100-BC-5 Operable Units (OUs). During cleanup, complex sites may be divided into several distinct areas to make the response more efficient. These areas, called OUs, may address geographic areas, specific problems, or media (e.g., groundwater, soil) where a specific action is required.

The plan presents six cleanup alternatives for remedial action (Table 1) and recommends a preferred alternative (highlighted in darker green). Upon public review, DOE and EPA will consider comments, then finalize cleanup decisions by issuing a Record of Decision (ROD).


100-BC Area - 1953


Post-initial remediation 100-BC Area - 2015

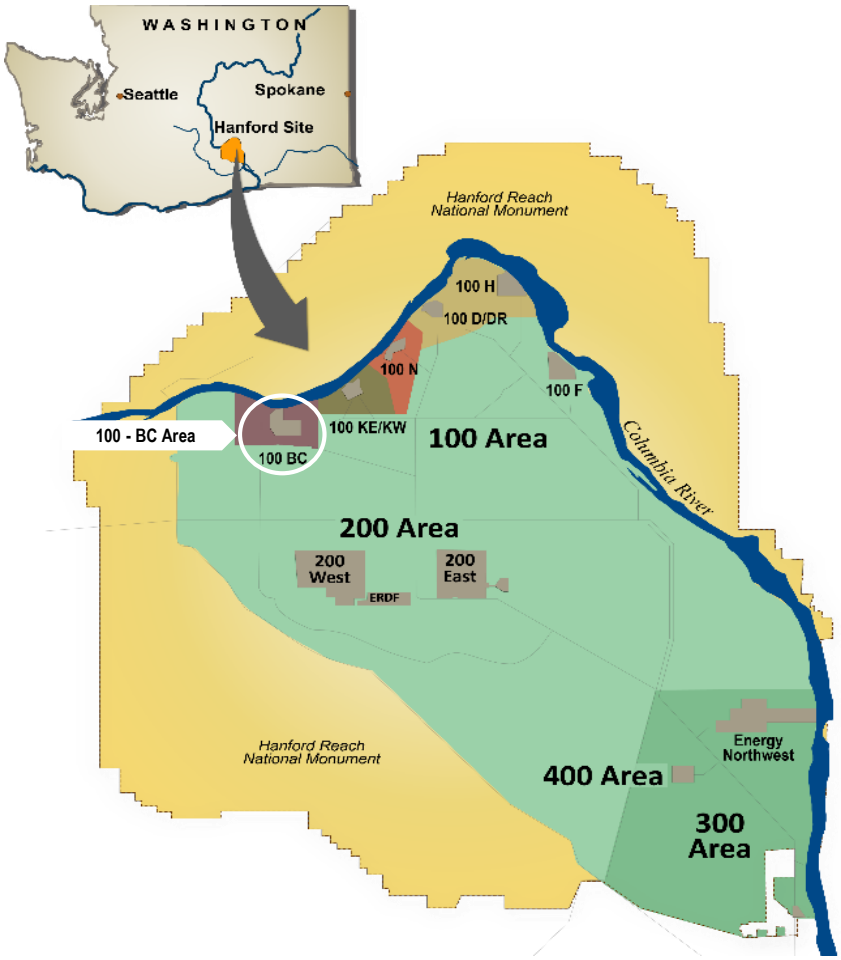
Public Comment Period for Proposed Cleanup Plan for Groundwater and Waste Sites in Hanford's 100-BC Area

100-BC Area Background

The 100-BC Area is within the 100 Area and includes the 100-BC-1 and 100-BC-2 source OUs, and the 100-BC-5 groundwater OU. This is the fourth of six long-term cleanup decisions planned for the River Corridor. The agencies issued the RODs for other areas of the River Corridor, including 300 Area, 100-F/IU and 100-D/H, in 2013, 2014 and 2018, respectively. The 100-BC Area covers 11.5 km^2 (4.5 mi^2) and includes two deactivated nuclear reactors that produced plutonium from 1944 to 1969. The reactors and associated processes generated large quantities of liquid and solid waste that contained radionuclides and chemicals. This waste contaminated the soil and groundwater beneath portions of the 100-BC Area.

Previous Cleanup Actions

DOE and its contractors removed most of the buildings from the 100-BC Area and cleaned up 82 waste sites under RODs for interim remedial action. No structures remain for removal under this ROD. Interim actions consisted primarily of removal, treatment and disposal (RTD) of soil, followed by backfill and revegetation. Workers excavated contaminated material and transported it to the Environmental Restoration Disposal Facility located on the Central Plateau of the Hanford Site.



Preferred Alternative

As part of the CERCLA process, the agencies identified and developed cleanup approaches through a detailed analysis. Based upon the results, the preferred cleanup option is Alternative 2 (Table 1). It includes institutional controls (ICs) for 30 waste sites, RTD for one waste site and no action for 82 waste sites that have no contaminants above risk-based thresholds. The preferred alternative for groundwater includes monitored natural attenuation (MNA) with ICs. The ICs prevent exposure to residual contaminants in the soil or groundwater until protective cleanup levels are met.

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Table 1. Alternatives Evaluated for 100-BC

Alternative	Components	Estimated Time for Cleanup	Cost (millions)[b]
1 – No Action	No Action	No Action	-
2 – Preferred Alternative – ICs, remove, treat, dispose (RTD), and No Action for Waste Sites; MNA with ICs for Groundwater	Waste sites: • Excavate contaminated soil and debris; treat as necessary to meet disposal restrictions; dispose of at ERDF; backfill; and plant with native vegetation (one waste site) • ICs to prevent exposure to residual contamination (30 waste sites) • No action (82 waste sites)	Waste sites: • Five years for RTD • 187 years for radioactive decay at 118-B-8:4[a] • 39 years for radioactive decay at other sites	$23M
	Groundwater: • MNA with additional wells to track progress • ICs to prevent exposure to residual contamination	Groundwater: • Hexavalent chromium Cr(VI): 60 years to meet surface water standard; 15 years to meet drinking water standard • Strontium-90: 70 years to meet drinking water standard • Trichloroethene: 25 years to meet drinking water standard • Tritium: Currently meets drinking water standard	
3 – ICs, RTD, and No Action for Waste Sites; Pump and Treat and MNA with ICs for Groundwater	Waste sites: same as Alternative 2	Waste sites: same as Alternative 2	$160M
	Groundwater: • Install extraction and injection wells; extract groundwater and treat at 100 KW for Cr(VI) • MNA with additional wells to track progress • ICs to prevent exposure to residual contamination	Groundwater: • Hexavalent chromium Cr(VI): 15 years to meet surface water standard; 5 years to meet drinking water standard • Strontium-90: 70 years to meet drinking water standard • Trichloroethene: 25 years to meet drinking water standard • Tritium: Currently meets drinking water standard	
4 – ICs, Aggressive RTD, and No Action for Waste Sites; Pump and Treat and MNA with ICs for Groundwater	Waste sites: • Excavate contaminated soil and debris; treat as necessary to meet disposal restrictions; dispose of at ERDF; backfill; and plant with native vegetation (five waste sites) • ICs to prevent exposure to residual contamination (29 waste sites) • No action (82 waste sites)	Waste sites: • 10 years for RTD • 35 years for radioactive decay	$220M
	Groundwater: same as Alternative 3	Groundwater: same as Alternative 3	

Table 1. Alternatives Evaluated for 100-BC (continued)

Alternative	Components	Estimated Time for Cleanup	Cost (millions)[b]
5 – ICs, RTD, and No Action for Waste Sites; Cr(VI) Source Treatment with Pump and Treat, MNA, and ICs for Groundwater	Waste sites: same as Alternative 2	Waste sites: same as Alternative 2	$100M
	Groundwater: • Inject calcium polysulfide into soil to reduce Cr(VI); install extraction and injection wells; extract groundwater and treat at 100 KW for Cr(VI) • MNA with additional wells to track progress • ICs to prevent exposure to residual contamination	Groundwater: • Hexavalent chromium Cr(VI): 15 years to meet surface water standard; 5 years to meet drinking water standard • Strontium-90: 70 years to meet drinking water standard • Trichloroethene: 25 years to meet drinking water standard • Tritium: Currently meets drinking water standard	
6 – ICs, Aggressive RTD, and No Action for Waste Sites; Cr(VI) Source Treatment with Pump and Treat, MNA, and ICs for Groundwater	Waste Sites: same as Alternative 4	Waste sites: same as Alternative 4	$160M
	Groundwater: same as Alternative 5	Groundwater: same as Alternative 5	

a) The 118-B-8:4 waste site is associated with the former fuel storage basin that is part of the B Reactor museum. Long-lived radionuclides were detected in soil around the basin at a depth of about 13 feet (4 meters), but do not present a risk to B Reactor visitors.

b) Costs include projected one-time capital costs as well as ongoing operation and maintenance costs for the alternative, discounted to present value for the purpose of comparison. For example, Alternative 2 includes an estimated $3.8 million cost for waste site remediation and new monitoring wells that would be incurred early in remedial action implementation, as well as $36 million for monitoring, maintenance, and reporting over the expected lifetime of the remedy. The estimated combined cost, discounted to present value, is $23 million.

Public Comment Period for Proposed Plan for Groundwater and Waste Sites in Hanford's 100-BC Area

Public Involvement

A 30-day public comment period will begin Oct. 7 and will continue through ~~Nov. 6~~ Dec. 9. No public meeting has been scheduled on this proposed plan. To request a public meeting, please contact Jennifer Colborn at (509) 376-5840.

Copies of the proposed plan and supporting documentation will be available online during the public comment period on the Hanford public involvement website at https://go.usa.gov/xVmew, in the Administrative Record at https://go.usa.gov/xVAU2, and in the Hanford Public Information Repositories at https://go.usa.gov/xVDTS.

Upon completion of the public comment period, a responsiveness summary that includes comments received with responses from the DOE and EPA, will be issued with a ROD.

All comments must be submitted by ~~Nov. 6~~ Dec. 9 to 100BCAreaPP@rl.gov (preferred) or in writing to:

U.S. Department of Energy
Attn: Jennifer Colborn
P.O. Box 450, H6-60
Richland, WA 99352

Questions? Please contact Jennifer Colborn, MSA, at Jennifer_M_Colborn@rl.gov or Laura Buelow, EPA, at Buelow.Laura@epa.gov.

If a meeting is held, please contact Jennifer Colborn, Jennifer_M_Colborn@rl.gov, (509) 376-5840 at least 10 working days prior to the event to request disability accommodation. DOE makes every effort to honor disability accommodation requests.

Jennifer Colborn, MSA
P.O. Box 450, H6-60
Richland, WA 99352

Laura Buelow, EPA
825 Jadwin Ave. Suite 210
Richland, WA 99352

Public Involvement Opportunity

We want to hear your comments on a proposed cleanup plan for groundwater and waste sites in Hanford's 100-BC Area

Comment Period:

October 7 to ~~November 6~~ December 9, 2019

Propose Plan for Hanford's 100-BC Area
U.S. Department of Energy
P.O. Box 450, H6-60
Richland, WA 99352