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Public comment sought on final end state of Experimental Breeder Reactor-II

The U.S. Department of Energy (DOE) is seeking public comment on a range of alternatives for disposition of the landmark Experimental Breeder Reactor-II (EBR-II) building and reactor vessel at the Idaho Site's Materials and Fuels Complex. An Engineering Evaluation/Cost Analysis (EE/CA) document with four proposed alternatives for the final end state of the reactor facility and support structures is currently under evaluation by DOE, the U.S. Environmental Protection Agency, and Idaho's Department of Environmental Quality.

The EBR-II was an innovative sodium-cooled reactor with an output of 62 megawatts which first achieved criticality in 1961. It was later hooked to generators to produce up to 20 megawatts of electricity for other facilities at the Site. EBR-II was used for testing materials and design concepts to improve reactor safety, culminating in the successful, historic tests of the inherently safe Integral Fast Reactor (IFR) concept in 1986. The IFR tests proved that reactors could be made virtually meltdown-proof – that is, even with a loss of all cooling systems and without operator intervention, the reactor would shut itself down through a design that takes advantage of the laws of physics.



Experimental Breeder Reactor-II containment dome

The EE/CA document evaluates four alternatives for disposition of the EBR-II reactor building and reactor, ranging from no action to full removal of the above ground structures and the reactor vessel.

The four alternatives are:

1. **No Action.** The no action alternative assumes no decommissioning or demolition would be conducted on the reactor structure or support structures and there would be no further surveillance or maintenance. The no action alternative offers no reduction in toxicity, mobility, or volume of contaminants, and is only used as a baseline for comparison.
2. **Continued Surveillance and Maintenance.** Under this alternative, EBR-II and its support structures would be left in place, under continuing surveillance and maintenance. This alternative also offers no reduction in toxicity or volume of contaminants, and only limited protection from mobilization of the contaminants to the environment above that provided by Alternative 1.
3. **Grouting the EBR-II vessel in place (Recommended Alternative):** Under Alternative 3, systems and structures above the reactor building floor would be demolished and most of the remaining systems and structures below floor level, including the EBR II reactor vessel, would be grouted in place. The end state would consist of a concrete and grout

monolith that would extend about 8 feet above ground level.

- 4. Removal of the EBR-II reactor vessel.** Alternative 4 includes demolition of the EBR-II reactor building and removal and disposal of the EBR II reactor vessel. The containment building would be demolished to ground level or below. Radioactive waste, including the reactor vessel and primary sodium tank components, would be removed from the site and disposed of at the Idaho CERCLA Disposal Facility in accordance with waste acceptance criteria. The end state for Alternative 4 is a belowground-level concrete/grout monolith.

The EE/CA has also been posted to the Idaho National Laboratory (INL) Administrative Record website, and is available for public comment through February 22, 2010. The INL Administrative Record can be found on the Internet at <http://ar.inel.gov/> and hard copies are available to the public at the following locations:

Albertsons Library	INL Technical Library
Boise State University	DOE Public Reading Room
1910 University Drive	1776 Science Center Drive
Boise, ID 83725	Idaho Falls, ID 83415
(208) 426-1625	(208) 526-1185

Written comments on DOE's plan can be sent or emailed to:

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After the close of the public comment period, DOE will address public comments in an Action Memorandum and document its selected alternative.

CH2M-WG Idaho, LLC, directs the Idaho Cleanup Project, the safe, environmental cleanup of DOE's Idaho National Laboratory site, located 45 miles west of Idaho Falls. The 7-year, \$2.9 billion project, funded through the U.S. Department of Energy's Office of Environmental Management, focuses on early risk reduction and protection of the Snake River Plain Aquifer.

For more information visit the Idaho Cleanup Project on the Web at:
<https://idahocleanupproject.com>

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By Brad Bugger