

# Waste Encapsulation and Storage Facility permit modification



## Public comment period

August 3 to September 18, 2020

Please submit comments

Electronically (preferred) via:

<http://nw.ecology.commentinput.com/?id=DJWB3>

By U.S. Mail, or hand-delivery:

Daina McFadden  
3100 Port of Benton Blvd  
Richland, WA 99354

## Public hearing

A public hearing is not scheduled, but if there is enough interest, we will consider holding one. To request a hearing or for more information, contact:

Daina McFadden  
509-372-7950  
[Hanford@ecy.wa.gov](mailto:Hanford@ecy.wa.gov)

## Special accommodations

To request an ADA accommodation, contact Ecology by phone at 509-372-7950 or email at [Daina.McFadden@ecy.wa.gov](mailto:Daina.McFadden@ecy.wa.gov), or visit [ecology.wa.gov/accessibility](http://ecology.wa.gov/accessibility).

For Relay Service or TTY call 711 or 877-833-6341.

## Public comment invited

The Washington State Department of Ecology (Ecology) invites the public to comment on the draft permit modification to allow transfer of cesium and strontium capsules out of the Waste Encapsulation and Storage Facility (WESF).

This modification will add the currently operating WESF facility to the *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Revision 8c (Site-wide Permit) as Operating Unit Group 14*.

The permittees are:

U.S. Department of Energy Office of River Protection  
PO Box 450  
Richland, Washington 99352

CH2M HILL Plateau Remediation Company  
PO Box 1600  
Richland, WA 99352

Ecology invites you to comment on this new modification **August 3 to September 18, 2020**.

## Modification overview

This modification will add the WESF Operating Unit Group to the Site-wide Permit. The WESF Operating Unit Group is comprised of three new Dangerous Waste Management Units (DWMUs): Hot Cell G DWMU, Pool Cells DWMU, and Truckport DWMU.

The WESF Hot Cells A through F are already incorporated in the Site-wide Permit as a Closing Unit Group. This Closing Unit Group is comprised of one DWMU and it will not be modified by this permitting action.

WESF currently stores 1,936 capsules containing radioactive cesium chloride and strontium fluoride salts. These salts were separated from tank waste from 1967 to 1985 to reduce the temperature inside storage tanks at Hanford.

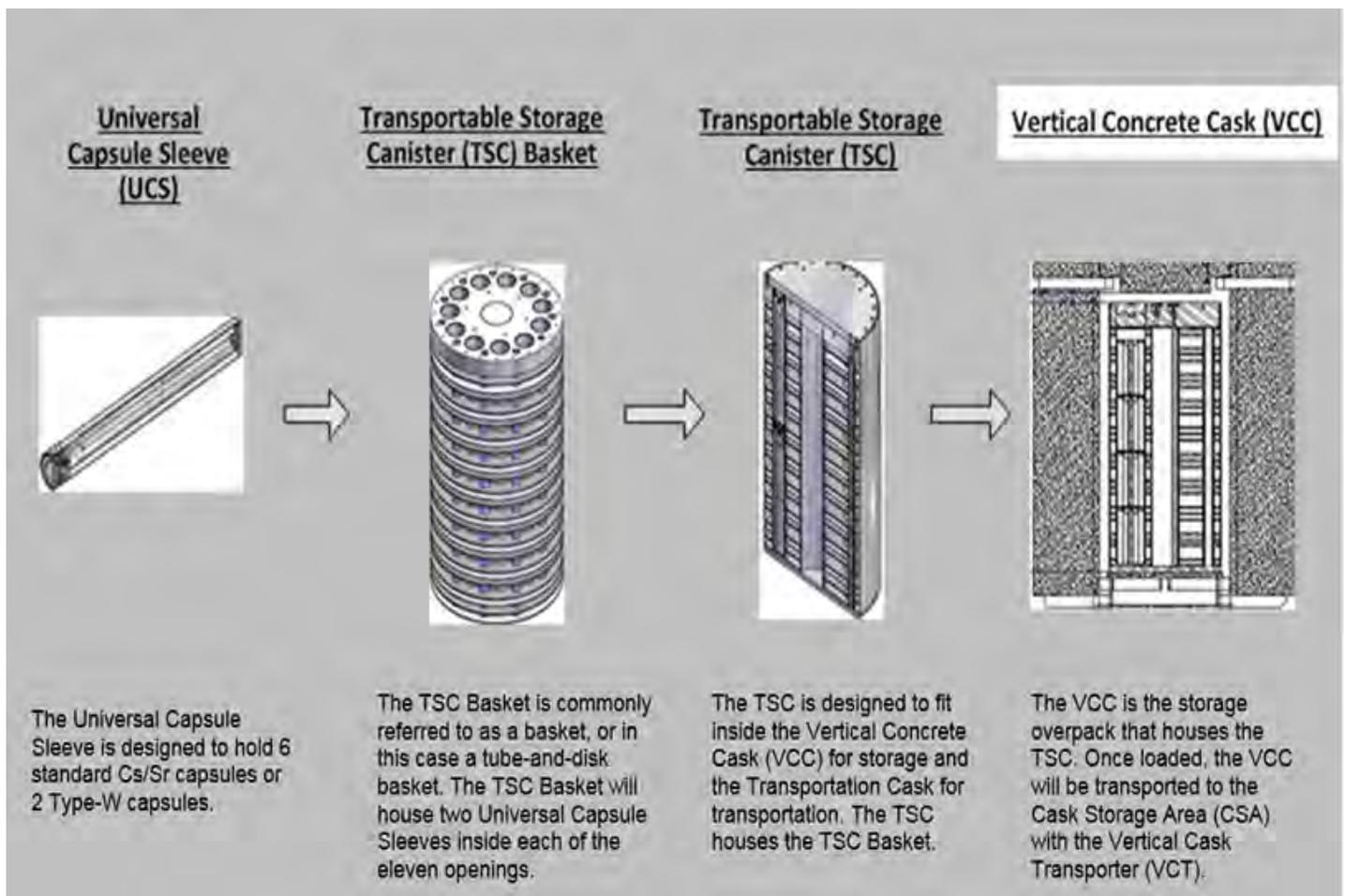
The separation process also recovered small amounts of heavy metals such as lead, chromium, and cadmium which are contained in the cesium and strontium salts. This mixed waste is contained in double-walled stainless steel capsules that are stored underwater for cooling and radiation shielding.

### Proposed changes

On February 20, 2020, Ecology issued a permit modification to authorize construction of a new Capsule Interim Storage (CIS) operating unit group to replace the current pool storage at WESF.

At WESF, the permittees will load 25 cask storage systems (CSSs) holding capsules in cylindrical casks approximately 10 feet in diameter by 11 feet tall. Each CSS will be constructed of concrete and steel to provide radiation shielding, waste protection and containment, and sufficient cooling through passive air ventilation. After each CSS is loaded it will be transferred to CIS for storage until a final treatment, storage, or disposal solution becomes available.

WESF will need to be reconfigured to support capsule transfer. For example, the current shielded storage container in Hot Cell G will be replaced to provide space to install the equipment to place capsules in universal capsule sleeves. A new layer of concrete floor will be poured in the Truckport to create a smooth surface for the vertical concrete casks. Additionally, there will be miscellaneous changes to piping, ventilation, and other support equipment for WESF.



## Why capsule transfer matters

Transfer from WESF to dry storage in CIS will provide increased safety and resiliency. WESF is beyond its 30-year design lifespan, and the concrete pool cell walls show signs of deterioration due to radiation exposure. At WESF, active cooling and water circulation are necessary to dissipate the heat generated by capsules. A spill or release would create a significant volume of contaminated water. If the pools were breached in an event such as an earthquake, it might leave the capsules uncooled and unshielded.

The cesium and strontium salts have gone through at least one half-life since being placed into pool storage and show reduced activity and heat generation. The capsules are still extremely hazardous, but can be safely shielded and cooled in storage casks. Moving capsules to dry storage eliminates the risk of power loss or equipment failure impacting the cooling system. In an emergency such as an earthquake, the potential for spread of contamination to soil and groundwater is more limited than it would be in pool storage.

Moving these capsules is also essential to initiate cleanup and closure of WESF and B Plant. Although the capsules will still be on site, CIS will have a much smaller physical and environmental footprint than existing facilities. This transfer advances the overall goal of Ecology and the permittees to clean and restore the Hanford Site.

## Why capsules will remain on site

There are no viable alternatives to continued storage of the cesium and strontium capsules at the Hanford Site. There are no facilities in the United States permitted to treat or permanently store this material. Therefore, continued interim storage in a manner protective of human health and the environment is the only current option.

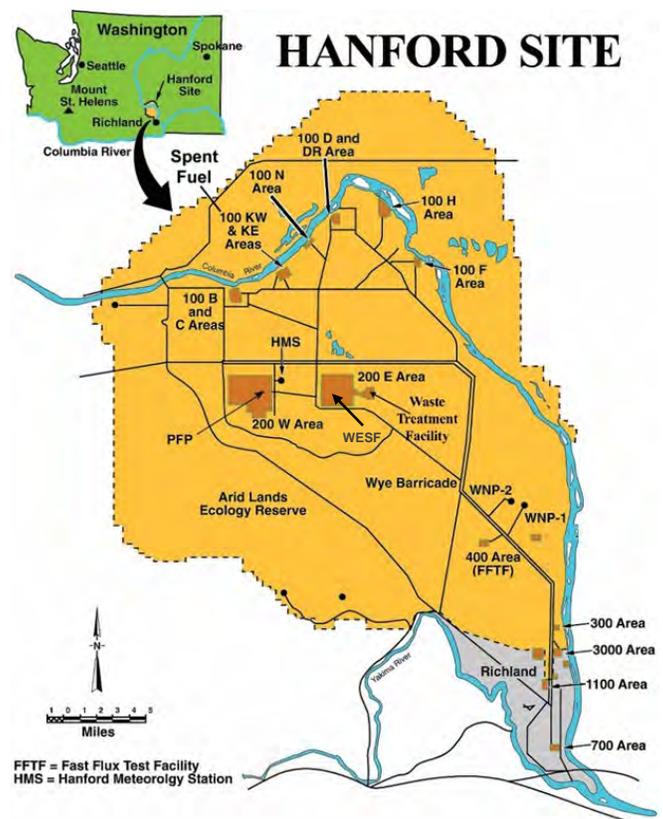
The permittees must continue to periodically evaluate more permanent disposition options under the Hanford Federal Facility Agreement and Consent Order. When an option is available, the cesium and strontium capsules will be treated and/or stored permanently at a different facility.

## Reviewing the proposed changes

Ecology invites you to review and comment on this proposed modification for the WESF Operating Group 14. See Page 1 for comment period dates and information on how to submit comments.

Copies of the application for the proposed permit and supporting documentation will be available during the public comment period online at Ecology’s website at [Ecology.wa.gov/Waste-Toxics/Nuclear-waste/Public-comment-periods](http://Ecology.wa.gov/Waste-Toxics/Nuclear-waste/Public-comment-periods). The documents will also be available electronically at the Hanford Public Information Repositories listed on the last page.

Ecology will consider and respond to all significant comments received during the public comment period. We will document our responses and issue a response to comments document when we make our final permitting decision.





Nuclear Waste Program  
3100 Port of Benton Blvd  
Richland, WA 99354

### **Hanford's Information Repositories and Document Review Locations**

Ecology Nuclear Waste Program  
Resource Center  
3100 Port of Benton Blvd.  
Richland, WA 99354  
509-372-7950

University of Washington  
Suzzallo Library  
P.O. Box 352900  
Seattle, WA 98195  
206-543-5597

U.S. Department of Energy  
Administrative Record  
2440 Stevens Drive, Room 1101  
Richland, WA 99354  
509-376-2530

Gonzaga University  
Foley Center  
502 E Boone Avenue  
Spokane, WA 99258  
509-313-6110

Washington State University Tri-Cities  
Department of Energy Reading Room  
2770 Crimson Way, Room 101L  
Richland, WA 99354  
509-375-7443

Portland State University  
Millar Library  
1875 SW Park Avenue  
Portland, OR 97207  
503-725-4542