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Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, WA 99354

Submitted to eComments: https://bit.ly/3NQyFg9

Re: Proposed Permit Modification for the Waste Encapsulation and Storage Facility

Dear Washington Department of Ecology,

Columbia Riverkeeper (Riverkeeper) submits the following comments on the Proposed Permit Modification for the Waste Encapsulation Storage Facility (hereafter referred to as "proposed permit modification"). Removal of 1936 highly radioactive cesium and strontium capsules from the Waste Encapsulation Storage Facility (WESF) should be one of the highest priority actions at the Hanford Nuclear Site. We urge the Department of Ecology (Ecology) to press the U.S. Department of Energy (Energy) to meet its deadline for removing capsules from WESF.

The consequences of a basin failure at WESF would be catastrophic for the facility, the Hanford Site, and for people and the environment downwind. WESF stores a dangerous amount of radioactivity. DOE estimated in 2017 that capsules stored in WESF contained 46 million curies of radioactivity.[1] The concrete in WESF's basins is beyond its design life after decades of exposure to intense radiation. These deteriorated basins house the water inside WESF—water critical for cooling and shielding the capsules. In the event of a large earthquake, damage to the basins could cause water to leak. Without the water to cool and shield them, the capsules could become exposed and possibly rupture, increasing the radioactivity to lethal levels within WESF.

[1] Federal Register. 2018. Amended Record of Decision for the Management of Cesium and Strontium Casules at the Hanford Site. https://www.federalregister.gov/documents/2018/05/18/2018-10643/amended-record-of-decision-for-the-management-of-cesium-and-strontium-capsules-at-the-hanford-site

This could potentially lead to a large airborne release of radioactive contamination, with very harmful consequences for the people nearby and the Columbia River. Ecology has acknowledged the risk, stating

> 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 is necessary to dissipate the heat generated by capsules. A spill or release would create a significant volume of contaminated water to clean. If the pools were breached in an event such as an earthquake, it might leave the capsules uncooled and unshielded.[2]

Energy must move quickly to reduce the risks at WESF by removing capsules to dry casks and moving the casks to the Capsule Storage Area (CSA). Tri-Party Agreement Milestone M-092-021 requires Energy to complete the transfer of the cesium and strontium capsules from WESF to the CSA within three years, by August 31, 2025. In the permit modification, Energy proposes to add a facility personnel position, a change that will hopefully facilitate efficient progress towards meeting the TPA milestone. We support the addition of staff and urge Energy to fully fund and support the effort to remove capsules from WESF to safer dry storage. In this respect, the proposed permit modification appears to be a positive step.

We urge Energy to remove capsules to dry storage as quickly and safely as possible. The proposed modification will allow Energy to store fourteen capsules in WESF's G Cell instead of the previously established limit of nine. Energy states in its fact sheet, "[t]he proposed modification supports the move to dry storage by providing WESF more flexibility to safely manage the capsules during the transfer process." During the August public meeting regarding the permit modification, Energy indicated that the storage of five additional capsules would allow Energy to manage the loading of multiple universal capsule sleeves (UCS) with two additional capsules allowed in G Cell. Each capsule may contain roughly 20,000 curies of radioactive material, based on Energy's estimate of 46 million curies for the total capsule inventory at WESF. Adding more than 100,000 curies of radioactivity to an already highly radioactive G Cell environment only makes sense if it reduces the overall risk of capsules languishing in aging concrete basins by safely facilitating their removal to dry storage.

We urge TPA agencies to avert delay as much as possible in removing capsules from WESF. According to Ecology's latest inspection report for WESF, Energy's Derek Cline indicated that Energy would be seeking to modify the milestone due date of August 31, 2025 for removing capsules from WESF to dry interim storage.[3] During the public meeting for the

[2] Washington Department of Ecology. November 2020. Response to Comments Waste Encapsulation and Storage Facility Class 3 permit modification. https://apps.ecology.wa.gov/publications/documents/2005026.pdf. p. 7.
[3] Washington Department of Ecology. July 28, 2022. Dangerous Waste Compliance Inspection on March 31, 2022, at the Waste Encapsulation and Storage Facility (WESF). https://pdw.hanford.gov/document/AR-20815

proposed permit modification, Energy indicated that they do not anticipate completing the necessary work at WESF prior to the milestone due date. Energy also stated that the work may be delayed by more than one year. Energy should not prolong the risk at WESF, and Ecology should not permit Energy to do so. Energy indicated that it would take one and a half months to load each cask, and so the process of removing and loading capsules must begin as soon as possible to reduce the risk at WESF. Energy should be focused on fully funding and executing the work as soon as possible.

Thank you for considering these comments.

Sincerely,

Dan Serres
Conservation Director
Columbia Riverkeeper