



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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**DETERMINATION OF SIGNIFICANCE
AND NOTICE OF ADOPTION OF
EXISTING ENVIRONMENTAL DOCUMENTS**

Description of Current Proposal:

The U.S. Department of Energy (USDOE) generated waste during defense-related nuclear research, development, and weapons production activities at the Hanford Site (Hanford) in Benton County. Approximately 207 million liters (54.6 million gallons) of mixed radioactive and chemically hazardous waste is stored in 159 large and associated smaller underground storage tanks. The USDOE-Office of River Protection (USDOE-ORP) proposes to modify existing facilities, construct new facilities, and operate these facilities (known as the Waste Treatment and Immobilization Plant, or WTP and IP) to treat and dispose of the waste at Hanford, or treat and store the waste pending disposal off the Hanford Site (off-site).

USDOE proposes to implement an approach called Direct Feed Low Activity Waste Treatment (DFLAW) in order to begin treating tank waste no later than 2023. To accomplish this, USDOE proposes the following facilities and functions: an effluent management facility (EMF), a cesium removal system to remove cesium from the tank supernatant, some additional transfer lines, and a storage pad for spent cesium ion exchange columns (Column Storage Pad). USDOE envisions the cesium removal system (known as the Low Activity Waste Pretreatment System, or LAWPS) project would be deployed in phases. Phase One would employ a single Tank Side Cesium Removal (TSCR) unit. Phase Two of the LAWPS project would follow with either the use of a permanent cesium removal capability or additional TSCR units to provide the necessary throughput to support full operation of the Low Activity Waste (LAW) Facility. The EMF and cesium removal system facilities would perform some of the same functions that the WTP Pretreatment Facility would perform, thereby allowing USDOE to proceed with the DFLAW approach prior to completing construction of the WTP Pretreatment Facility.

“In the *Final Tank Closure and Waste Management Environmental Impact Statement* (TC&WM EIS), USDOE described a concept that involved sequencing the startup of the facilities and operations of the WTP. Under that concept, referred to in the Final TC&WM EIS as the "Vision for WTP Project Transition to Operations," USDOE would finish construction and operate certain facilities that would allow USDOE to better align tank farm operations and WTP treatment capabilities, which in turn would allow USDOE to treat supernatant waste earlier than treatment would occur if all WTP facilities were required to start operations at the same time.” [1]

The low-activity fraction of the tank waste would be treated by vitrification (turned into glass) then disposed in an on-site Resource Conservation and Recovery Act-compliant lined landfill: the Integrated Disposal Facility (IDF). The waste treatment process also generates solid and liquid secondary waste. In operating the TSCR facility, cesium ion exchange columns are generated. The spent columns would be stored on-site on the Column Storage Pad, then either vitrified in the High Level Vitrification Facility prior to disposal off-site, or direct-disposed off-site in a national high level waste repository.

The potential adverse environmental impacts of constructing and operating waste management treatment, storage, and disposal facilities for Hanford tank waste were evaluated in the *Final Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS)* (DOE/EIS-0391). Since the TC&WM EIS was issued in 2012, USDOE-ORP has modified the planned configuration of the Hanford complex for treating, storing, and disposing of tank waste.

USDOE-ORP created a detailed description of how the TC&WM EIS relates to the currently planned configuration. Ecology is incorporating by reference the latter supplemental analysis:

1. *Supplemental Analysis of the Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland, Washington* (DOE/EIS-0391-SA-2).

Proponent:

U.S. Department of Energy, Office of River Protection, Richland, Washington

Location of Current Proposal:

U.S. Department of Energy, Hanford Site, Benton County, Washington

Title of Document Being Adopted:

Final Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS) for the Hanford Site, Richland, Washington (USDOE/EIS-0391).

Agency that Prepared Document Adopted:

U.S. Department of Energy

Date adopted document was prepared:

December 5, 2012

Description of document (or portions) being adopted:

Ecology is adopting TC&WM EIS Alternative 2 for tank waste treatment, “Implement the *Tank Waste Remediation System EIS* Record of Decision with Modifications.” Ecology is also adopting TC&WM EIS “Waste Management Alternative 2: Disposal in IDF, 200-East Area Only.”

Note that while the TC&WM EIS calls it “Alternative 2 for Tank Closure” Ecology is not currently adopting any portion of the TC&WM EIS related to closing 149 Single Shell Tanks, because Ecology is not permitting tank closure at this time. In addition, Ecology is not currently adopting any portion of the TC&WM EIS related to (1) Tank Closure Alternatives 1, 3, 4, 5 or 6; (2) any of the Alternatives for FFTF Decommissioning; or (3) Alternatives for Waste Management other than the one identified above. Although Ecology is not adopting the entire TC&WM EIS at this time, the lead agency may consider adopting the analysis for additional alternatives and/or elements of those alternatives, if and when such adoption would support Ecology permitting decisions.

Since the TC&WM EIS was issued in 2012, USDOE-ORP has modified the planned configuration of the Hanford complex for treating, storing, and disposing of tank waste.

USDOE-ORP created a detailed description of how the TC&WM EIS relates to the currently planned configuration:

Supplemental Analysis of the Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland, Washington (USDOE/EIS-0391-SA-2).

Ecology is incorporating by reference the latter supplemental analysis.

If the document being adopted has been challenged (WAC 197-11-630), please describe:

N/A

The document being adopted is available:

on-line at <http://www.hanford.gov/page.cfm/FinalTCWMEIS>

see also [https://www.hanford.gov/files.cfm/SIGNED_DOC_-_ATTACHMENT-TAB_A_DFLAW_SA_\(1-17-2019\).pdf](https://www.hanford.gov/files.cfm/SIGNED_DOC_-_ATTACHMENT-TAB_A_DFLAW_SA_(1-17-2019).pdf)

EIS Required:

Ecology has determined this proposal is likely to have a significant adverse impact on the environment. To meet the requirements of RCW 43.21C.030(2)(c), Ecology is adopting the portions of the document described above. Under Washington Administrative Code (WAC) 197-11-360, there will be no scoping process for this EIS.

Ecology identified and adopted the portions of this document as being appropriate for this proposal after independent review. These portions of the document meet environmental review needs for the current proposal and will accompany the proposal to the decision maker. This Determination of Significance and Adoption Notice is issued under WAC 197-11-630(3)(a), and the lead agency will not act on this proposal until 7 days after the below date of this notice.

Name of agency adopting document:

State of Washington Department of Ecology, Nuclear Waste Program

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Date: August 24, 2020

Signature: John B. Price