



# Waste Encapsulation Storage Facility

## Class 3 Permit Modification Request to the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion



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# Overview

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# Introduction and Purpose

- Presented by the U.S. Department of Energy Richland Operations Office (DOE-RL):
  - **Julie Reddick**, Waste Management and Decontamination and Decommissioning Division
- Purpose:
  - Meet *Washington Administrative Code (WAC)* regulatory requirements for public involvement (WAC 173-303-830(4)(c)(iv))
    - Provide information to the public on a Class 3 Permit Modification Request
      - *Hanford Facility Dangerous Waste Part B Permit Application for the Waste Encapsulation and Storage Facility Operating Unit Group*
    - Answer questions

*NOTE: This presentation is one of two related to the public comment periods running concurrently*



# History and Regulatory Background

- Hanford Site was established in 1943 to produce plutonium for national defense
  - Production ended by 1989
  - Significant amounts of waste were created
- Hanford's mission then shifted to environmental cleanup and waste management operations; Hanford Site cleanup is one of the largest, most complex environmental projects in the United States
- The Resource Conservation and Recovery Act of 1976 (RCRA) is a key regulatory statute related to WESF and the Capsule Storage Area

# History and Regulatory Background (cont.)

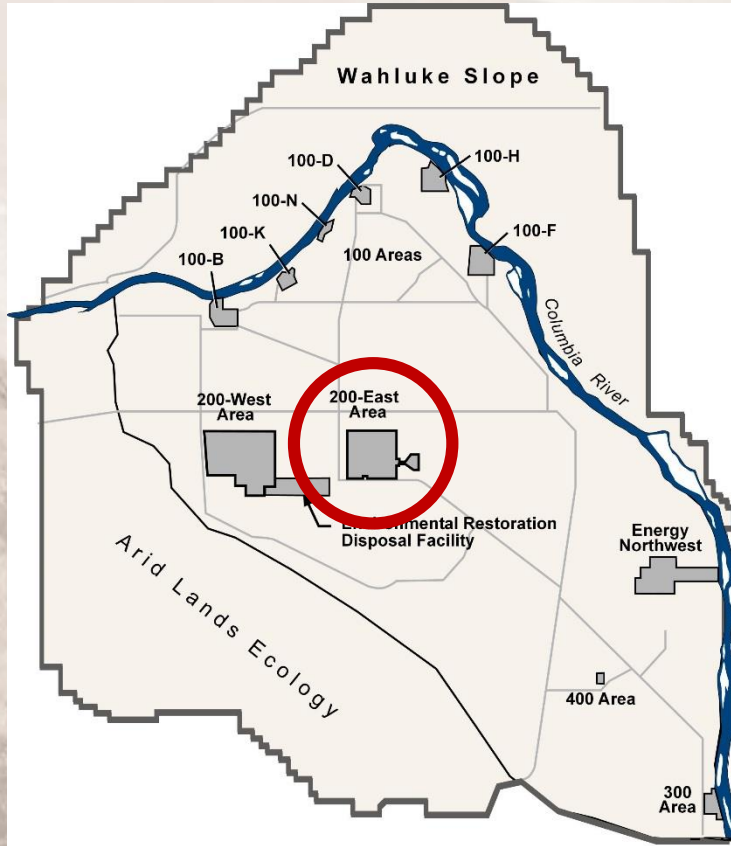


Washington State has been authorized to implement a state variation of the RCRA program, known as the Dangerous Waste Regulations (WAC 173-303), under RCW 70.105.130 to:

- Ensure dangerous waste is handled in a manner that protects human health and the environment
- Regulate facilities that manage (e.g., store, treat, and/or dispose) waste



# Location





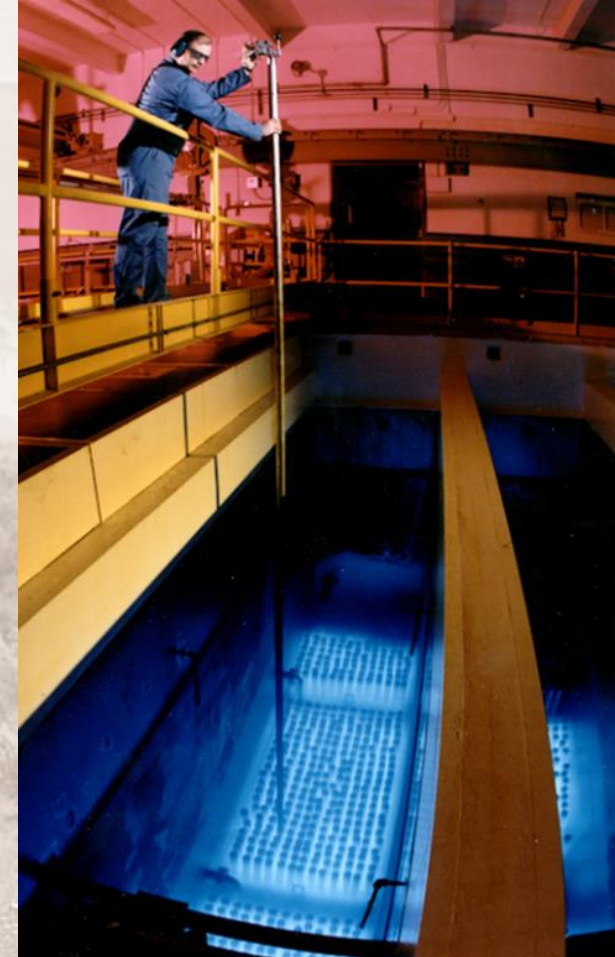
# Permitting Background

- Ecology issued the Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment Storage, and Disposal of Dangerous Waste, Permit Number WA7890008967 in 1994
  - Current Permit Revision is known as “Rev. 8C”
- The permit provides standard and general facility conditions, as well as, unit-specific conditions for the operation, closure and post-closure of operating unit groups
  - Standard Conditions (Part I)
  - General Facility Conditions (Part II)
  - Unit-Specific Conditions for the Final Status Operations (Part III)
  - Unit-Specific Conditions Corrective Action (Part IV)
  - Unit-Specific Conditions for Units Undergoing Closure (Part V)
  - Unit-Specific Conditions for Units in Post-Closure (Part VI)



# WESF History

- WESF was constructed in 1973 in the 200 East Area of the Hanford Site
- From 1974 to 1985, WESF encapsulated radioactive cesium and strontium and stored these capsules in concrete pool cells
- Impurities in the isotopes require their classification as mixed waste, requiring management under RCRA
- 1,936 capsules are stored in pool cells filled with water to protect workers from high levels of radioactivity and help keep the capsules cool
- While the capsules are currently in a safe and compliant configuration, WESF is aging
- DOE-RL is proposing to move the capsules out of WESF and store them in concrete casks on the proposed Capsule Storage Area concrete pad



# Proposed Permit Modification Request



- The permit modification request is required per WAC 173-303-806 and 830
- The Class 3 permit modification request proposes to incorporate WESF into the Unit-Specific Conditions for Final Status Operations (Part III) portion of the Permit

# Proposed Changes – Final Status Operations

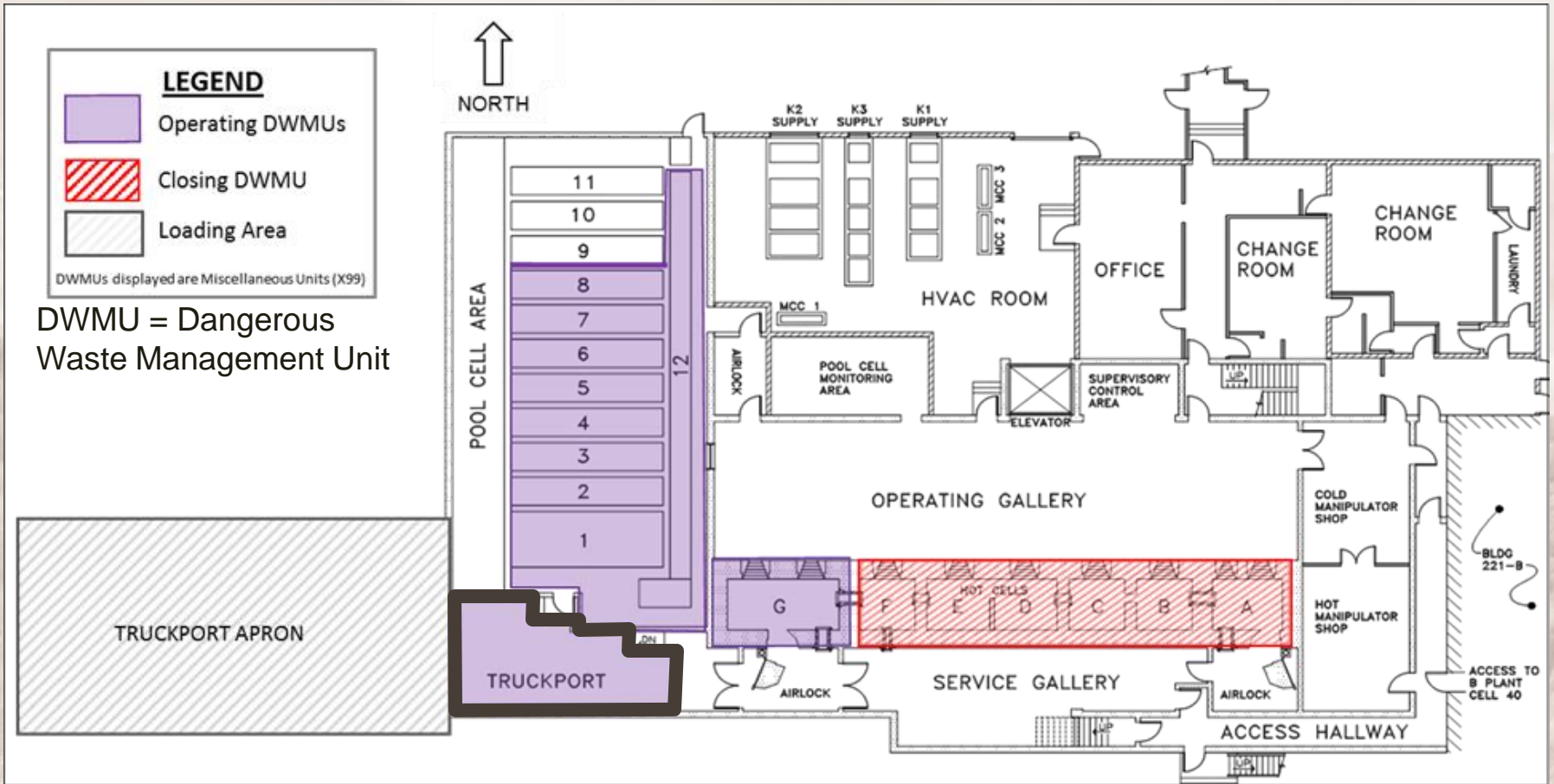


Permit modification request includes the following:

- Addendum A, Part A Form
- Addendum B, Waste Analysis Plan
- Addendum C, Process Information
- Addendum E, Security
- Addendum F, Preparedness and Prevention
- Addendum G, Personnel Training
- Addendum H, Closure Plan
- Addendum I, Inspection Plan
- Addendum J, Contingency Plan



# Proposed Changes – Final Status Operations (cont.)



# Proposed Changes – Final Status Operations (cont.)



- WESF consists of four miscellaneous Dangerous Waste Management Units (DWMUs):
  - Hot Cells A-F
    - Not operational, undergoing closure
  - Pool Cells
    - Currently store capsules under water
  - Hot Cell G
    - To be used for loading capsules into protective sleeves
  - Truckport
    - Proposed new DWMU
    - To be used for storing the casks for capsule loading

# Proposed Changes – Final Status Operations (cont.)



- Hot Cell G will contain loading and sealing equipment for packaging and sealing capsules into protective sleeves, called Universal Capsule Sleeves
  - Up to six capsules will be loaded in each sleeve
- Sleeves containing capsules will be lifted out of Hot Cell G and transported by crane to the truckport



Depiction of transfer system used to lift sleeves out of Hot Cell G

# Proposed Changes – Final Status Operations (cont.)



- In the truckport, up to 22 sleeves, each housing up to six capsules (132 capsules) will be loaded into a portable storage canister within a concrete cask
- Storage casks are designed with radiation shielding to protect workers and to limit release of contamination
- Once the capsules are loaded, casks will be transported to the proposed interim Capsule Storage Area



Transportable storage canisters will hold rows of sleeves containing the capsules

# Proposed Changes – Final Status Operations (cont.)



- Proposed modifications to WESF include:
  - Installation of capsule packaging and loading equipment in Hot Cell G
  - A new cover block for Hot Cell G to allow transfer of capsules to the truckport by crane
  - Modification of the truckport to support the weight and transfer of casks
  - Expansion of the truckport apron to facilitate cask movement and to support cask load and equipment



Cask model outside of WESF  
(conceptual)



# Class 3 Permit Modification Process

- DOE-RL Responsibilities
  - Submit permit modification request to Ecology (the permitting agency)
  - Notify public
    - Public mailing list
    - Local newspaper
  - Hosts public meeting
- Written comments due to Ecology
- Following 60-day public comment period, Ecology responds with either denial or approval of permit modification request
  - Ecology will perform a completeness review and notify the permittees if the application is complete
  - Once application is complete
    - Ecology prepares draft permit and draft permit conditions
    - Hosts public hearing (if requested)
  - After 45-day public comment period, Ecology will perform the steps detailed in WAC 173-303-840 (7) or (8) dependent on the public comments during the comment period

60-Day  
Public  
Comment  
Period

45-Day  
Public  
Comment  
Period



# Conclusion

- The 60-day public comment period for this permit modification request ends on **January 31, 2018**
- The permit modification request may be accessed online:
  - Hanford Event Calendar at <http://www.hanford.gov/pageAction.cfm/calendar?&IndEventID=8661>
  - Hanford Facility Administrative Record at 2440 Stevens Center Place in Richland or online at <http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0067755H>
  - Hanford Public Information Repositories (addresses located on fact sheet)
- Comments may be submitted to the Washington State Department of Ecology, Richland Nuclear Waste Office via eComments (preferred) to: <http://wt.ecology.commentinput.com/?id=QkDYA>



# Contact Information

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# Questions