

**WASTE ENCAPSULATION AND STORAGE FACILITY  
APPENDIX IA  
INSPECTION FREQUENCY JUSTIFICATION  
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number

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**Waste Encapsulation and Storage Facility Inspection Frequency Justification**

<b>Requirement Description</b>	<b>Frequency</b>	<b>Inspection</b>	<b>Justification for Designated Inspection Frequency</b>
<b>General Facility</b>			
Posted Warning Signs	Annually	Check condition of dangerous waste warning signs. Ensure signs are visible, in good condition, and verify the location of the signs.	Signs exposed to weather typically fade and may need to be replaced every one or two years. Based on experience with sign replacement, the use of metal signs, and best management practice, annual inspections are recommended.
225-B Automatic Sprinkler System – Valves and Riser Pressure Gauges	Monthly	Check that equipment is in good condition, valve seals are intact, and water pressure is available.	National Fire Protection Association (NFPA) 25, <i>Standard for the Inspection, Testing, and Maintenance of Waste-Based Fire Protection Systems</i> .
225-B Automatic Sprinkler System – Valve Functional Test	Annually	Verify that valves and associated alarms are functional.	National Fire Protection Association (NFPA 25), <i>Standard for the Inspection, Testing, and Maintenance of Waste-Based Fire Protection Systems</i> .
Fire Extinguishers	Monthly	Ensure that fire extinguishers are visible, are in proper location, are the proper type, easily accessible, and that the fire extinguishers are adequately pressurized for use (i.e., gauge reading).	National Fire Protection Association (NFPA 10), <i>Standards for Portable Fire Extinguishers</i> .
Fire Alarm/Pull Boxes	Annual	Hanford Fire Department verifies that fire alarm/pull boxes are operational by performing functional test.	National Fire Protection Association (NFPA 72), <i>National Fire Alarm and Signaling Code</i> .
Emergency Lighting	Monthly	Verify that equipment is present and functional.	National Fire Protection Association (NFPA 101), <i>Life Safety Code</i> .

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Communications Equipment	Annually	Check that equipment is present and operating.	Components of the communication system are used frequently so system malfunctions can be detected and corrected promptly. However, an annual inspection is conducted.
Safety Shower	Monthly	Check that equipment is present and functional.	Per the American National Standards Institute (ANSI) Z358.1-2014, a test of the equipment is required on an annual basis. As a best a management practice, tests occur monthly.
Spill Kits	Monthly/Annually	Monthly, check the tamper seal on the spill kit. If the spill kit has been opened since the last inspection, inventory the spill kit contents. Affix seal after inventory check/restocking. Annually, perform a physical inventory of spill kit. Replace missing and expired items.	Spill response kits are kept sealed. Monthly inspections are performed to verify that the custody seal is intact to ensure that all required supplies are still there. Annual inspections are performed to inventory the spill kits and replace missing or expired supplies. Disposable gloves have the shortest shelf life of the materials stocked in spill kits. Glove manufacturers generally do not specify a shelf life for their products, but common industry guidelines indicate that disposable nitrile gloves have a shelf life of at least 3 years. Annual inspection of spill kit contents is more than frequent enough to detect degradation in gloves as well as other spill kit supplies.
Portable Eyewash Stations	Semi-Annually	Check for proper function and operation.	Per ANSI Z358.1-2014, a functional check is required on an annual basis. As a best management, portable eyewash stations are checked semi-annually.

**Waste Encapsulation and Storage Facility Inspection Frequency Justification**

Requirement Description	Frequency	Inspection	Justification for Designated Inspection Frequency
Exterior Surfaces	Annually	Check for structural damage to the building. Check outside the building for liquid accumulation or signs of hazardous waste releases.	Based on Ecology’s proposal, documented in 01-RCA-250, “Completion of Corrective Measure Number Three of the June 12, 2000, State of Washington Department of Ecology (Ecology), Notice of Correction, Docket Number 00NWPKW-1204,” an annual inspection of the WESF was agreed to. This schedule will allow any problems to be identified in time to correct them before they have the potential to harm human health and the environment (HHE) (Washington Administrative Code [WAC] 173-303-320).
<b>Storage</b>			
Pool Cell Beta Monitoring System: Data from Leak Detection Equipment Monitors (i.e., leakage of the capsules, <i>NOT</i> pool cell water)	Daily <sup>a</sup>	Verify that beta monitors for applicable pool cells are within acceptable range.	Based on Ecology’s proposal, documented in 01-RCA-250, “Completion of Corrective Measure Number Three of the June 12, 2000, State of Washington Department of Ecology (Ecology), Notice of Correction, Docket Number 00NWPKW-1204,” the pool cell beta monitors are to be inspected periodically to verify instrumentation are within the proper limits. It was determined that a daily inspection will allow any problems to be identified in time to correct them before they harm HHE (WAC 173-303-320).

**Waste Encapsulation and Storage Facility Inspection Frequency Justification**

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Pool Cell Beta Alarms	Monthly	Verify that equipment is functional.	Historical operational experience. This equipment has been in use at WESF for an extended duration. Monthly inspections are based on the historic operability.
Pool Cell Water Level	Daily <sup>a</sup>	Check that water level is within acceptable range.	With no pool cell cooling, water evaporates at a rate of approximately 0.20 in/hr. Work day surveillance provides adequate response time. Pool cell low water level alarms are used as a backup response.
Pool Cell Low Water Level Alarm	Quarterly	Verify that equipment is functional.	Historical operational experience. This equipment has been in use at WESF for an extended duration. Quarterly inspections are based on the historic operability.
Hot Cell G	Weekly	Check for evidence of spills, leaks, or cracks on the visible areas of the floor and sump.	WAC 173-303-630(6). "The owner or operator must conduct weekly inspections... of areas where containers are stored..."
Truckport	Before VCC is placed in Truckport and after transfer	Check for evidence of spills, leaks, or cracks.	Per WAC 173-303-680(2), permit terms and provisions must include those requirements that are appropriate for the miscellaneous units being permitted. In-person weekly inspections of the Truckport while the casks are being loaded are not appropriate due to the presence of localized radiation fields. As the cask is being loaded, radiation fields will increase.  The Truckport will be inspected before the cask is brought in to ensure the area is free



**Waste Encapsulation and Storage Facility Inspection Frequency Justification**

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			of cracks and spills. The Truckport will be inspected again after transfer.
Exterior of Vertical Concrete Cask	Before capsule loading and before transfer from WESF	Check for deterioration and damage on the VCC exterior. Verify that cask labels are visible, unobscured and in good condition.	Per WAC 173-303-680(2), permit terms and provisions must include those requirements that are appropriate for the miscellaneous units being permitted. In person weekly inspections of the casks are not appropriate due to the presence of localized radiation fields. As the cask is being loaded, radiation fields will increase.  The cask will be inspected before capsule loading to ensure the cask is free of damage and deterioration. The cask will be inspected again before being transferred from WESF.
Truckport Apron	Before VCC is placed on apron and after transfer	Check for evidence of spills, leaks, or cracks.	Best management practice.
<b>Waste Handling Equipment<sup>c</sup></b>			
Canyon Crane	Daily	Check for proper function and operation.	29 Code of Federal Regulations (CFR) 1926.251, <i>Rigging equipment for material handling.</i>
Manipulators	Daily	Check for proper function and operation.	Inspection conducted to ensure proper function before each use.
Air Pallet <sup>b</sup>	Daily	Check for proper function and operation.	ASME B30.1, <i>Jacks, Industrial Rollers, Air Casters, and Hydraulic Gantries.</i>
Loading and Sealing Equipment <sup>b</sup>	TBD	TBD	

**Waste Encapsulation and Storage Facility Inspection Frequency Justification**

Requirement Description	Frequency	Inspection	Justification for Designated Inspection Frequency
Dry Transfer System <sup>b</sup>	A	Visually inspect hoist components for proper function and operation.	ASME B30.20, <i>Below-The-Hook Lifting Devices</i> .

References: 0102332/01-RCA-250, 2001, “Completion of Corrective Measure Number Three of the June 12, 2000, State of Washington Department of Ecology (Ecology), Notice of Correction, Docket Number 00NWPKW-1204” (letter to E.R. Skinnerland, State of Washington, State of Washington, Department of Ecology, Kennewick, Washington from J. Hebdon, Director, Regulatory Compliance and Analysis Division, U.S. Department of Energy, Richland Operations Office and R.H. Gurske, Director, Environment and Regulation, Fluor Hanford, Inc.), Richland, Washington, April 17. Available at: <http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=D8702084>.

29 CFR 1926.251, Safety and Health Regulations for Construction, Materials Handling, Storage, Use, and Disposal, *Rigging equipment for material handling*.

ANSI Z358.1-2014, *American National Standard for Emergency Eyewash and Shower Equipment*, American National Standards Institute, New York, New York. Available for purchase at: <https://webstore.ansi.org/RecordDetail.aspx?sku=ANSI%2fISEA+Z358.1-2014>.

NFPA 10, 2013, *Standard for Portable Fire Extinguishers*, National Fire Protection Association, Quincy, Massachusetts. Available for purchase at: <http://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=10>.

NFPA 25, 2013, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, National Fire Protection Association, Quincy, Massachusetts. Available for purchase at: <http://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=25>.

NFPA 101, 2015, *Life Safety Code*<sup>®</sup>, National Fire Protection Association, Quincy, Massachusetts. Available for purchase at: <http://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=101>.

WAC 173-303, *Dangerous Waste Regulations*, Washington Administrative Code, Olympia, Washington. Available at: <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303>.

173-303-320, *General inspections*.

173-303-630, *Use and management of containers*.

173-303-680, *Miscellaneous units*.

Note: Inspection frequencies are defined by the following: daily – once per calendar day, weekly – once per calendar week with a period that runs from Sunday to Saturday, monthly – once per calendar month, quarterly – once per calendar quarter, semi-annually – once per 6-month calendar period, and annually – At least once per 12-month period ±30 days

<sup>®</sup>*Life Safety Code* is a registered trademark of the National Fire Protection Association, Quincy, Massachusetts.

a. Inspection will be on scheduled work days excluding Hanford Facility closure days.

b. Inspections will occur upon initiation of capsule transfer operations.

c. Inspections are applicable only during equipment use. If the facility equipment has been inactive and inspections have been suspended, then an initial inspection will be conducted prior to use.

ANSI = American National Standards Institute

VCC = Vertical Concrete Cask

ASME = American Society of Mechanical Engineers

WESF = Waste Encapsulation and Storage Facility

TBD = To be determined