WASTE TREATMENT OF IMMOBILIZATION PLANT
CHAPTER 6A
INSPECTION PLAN

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
04/05/2018	8C.2018.1F
09/05/2017	8C.2017.6F
08/2011	

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CHAPTER 6A
INSPECTION PLAN

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CHAPTER 6A
INSPECTION PLAN

TABLE OF CONTENTS

TABLES

ACRONYMS

ALARA	As Low As Reasonably Achievable
EMF	Effluent Management Facility
HLW	High-Level Waste
IHLW	Immobilized HLW
ILAW	Immobilized LAW
LAW	Low-Activity Waste
NDE	Non-Destructive Examination
WTP	Waste Treatment and Immobilization Plant

CHAPTER 6A
INSPECTION PLAN

6A.0 INSPECTION PLAN

The following sections describe the Waste Treatment and Immobilization Plant (WTP) dangerous waste inspection plan. The WTP Inspection Plan uses a graded approach to preventing and detecting malfunctions, deterioration, operator errors, and discharges that range from daily inspections to integrity assessments. This graded approach is comprised of activities that, at a minimum, meets the inspection requirements in Washington Administrative Code (WAC) 173-303-320 and includes more precautions for equipment at higher risk of failure. Monitoring via instrumentation will be used to perform remote inspections in areas of high radioactivity, including, but not limited to, the Pretreatment areas, Low Activity Waste (LAW) vitrification area, Analytical Laboratory (Lab), Effluent Management Facility (EMF) and the High Level Waste (HLW) vitrification area. Due to the radioactive nature of the waste and consistent with as low as reasonably achievable (ALARA) principles, monitoring by instrumentation is the primary means of fulfilling the inspection requirements in these areas. ~~The WTP also use cameras, windows, process control, function checks, and preventive maintenance to comply with inspection requirements.~~

DFLAW Configuration refers to WTP Unit operations where LAW, Lab, and EMF (III.10.H, III.10.I, III.10.L, and III.10.M) are permitted to receive and vitrify pre-treated tank waste. The Pretreatment and HLW facilities will not operate in the DFLAW Configuration and are currently being managed under a preservation and maintenance program. Specific operating conditions in the WTP Permit do not apply to Pretreatment and HLW in the DFLAW Configuration.

The inspection schedule for various facilities ~~are~~ is provided in Table 6A-1 through Table 6A-7 of this inspection ~~schedule~~plan. Each table addresses a particular dangerous waste management unit, or group of units, such as tanks. Within each dangerous waste management unit table, the inspections are presented by system, and are further broken down by individual component. Once a dangerous waste management unit receives dangerous and/or mixed waste, the inspection criteria and frequencies detailed in the tables for each specific unit (Table 6A-1 through 6A-7) will be active. Controlled copies of the inspection plan will be kept at the WTP facility. Inspection tables identified as Example (e.g., Pretreatment and HLW) are deferred from inspections, as they are not applicable to the DFLAW Configuration.

The WTP has no waste pile units, surface impoundment units, incinerator units, landfill units, or land treatment facilities. The requirements for inspection of these units and activities are not applicable to the WTP and are not included in this inspection schedule.

6A.1 General Inspection Requirements

This section describes general, WTP-wide inspection requirements used to help prevent, detect, or respond to environmental or human health hazards related to dangerous and/or mixed waste handling, treatment, and storage at the WTP.

Personnel performing these inspections will be appropriately trained and qualified in the system or activity being inspected as prescribed in Chapter 8.0, "Personnel Training."

6A.1.1 Inspection Methods

The method of inspection is how an inspection is to be performed. The three primary methods of inspection identified and required by this inspection plan are described below.

Methods of Inspection	
Physical	An inspection conducted physically in person. A physical inspection requires the physical presence of the inspector at the item of inspection and is not to be confused with a remote inspection. Due to accessibility limitation, physical inspections may be conducted with the aid of instruments (e.g., borescope, mirrors).
Remote	An inspection conducted by Closed-Circuit Television (CCTV), observation windows, control panels, process control system, or any other inspection that is not conducted physically in person.
Functional	An inspection conducted by operating or testing the item being inspected to determine if equipment/instrument is operating correctly and capable of performing its function.

Due to the radioactive nature of the waste and consistent with ALARA principles, remote inspections are the primary method of conducting inspections for several facilities at WTP. Areas of higher radiation have been identified for all of the operating facilities, i.e. Lab, Pretreatment, LAW vitrification area, HLW vitrification area and EMF. Unless otherwise stated in this permit, inspections of equipment, items, and systems are performed as physical inspections.

6A.1.2 Inspection Frequencies

The frequency of inspection is how often (at a minimum) an inspection must be performed. For the purposes of this inspection schedule, the various inspection frequencies have been established with sufficient conservatism to be protective of human health and the environment. The inspection frequencies most frequently used in this plan are outlined below.

Inspection Frequencies	
Frequency	**Definition**
Daily	Once per calendar day
Weekly	~~Once per calendar week~~At least once during the period from Sunday to Saturday
Monthly	Once per calendar month
Bimonthly	Once every other calendar month
Quarterly	Once per calendar quarter
Semi-Annual	Once per 6-month calendar period
Annually	At least once during a 12-month period +/- 30 days

6A.1.3 ~~Suspended~~ Inspection Checklists

~~When a dangerous waste management unit is no longer receiving, managing, or treating waste, the unit's specific inspections may be suspended. During these situations, inspections can be suspended until the affected system is placed back into dangerous waste operation. Prior to resuming dangerous waste operations, "initial" inspections will be conducted when the system is brought back online and regularly scheduled inspections are resumed. Inspections detailed in Table 6A-1 cannot be suspended.~~

~~In the case an inspection has been suspended prior to the expiration of the next scheduled inspection, the inspection requirement is satisfied by performing the inspection prior to resuming dangerous waste operations. In the case of suspended daily inspections, the initial (restart) inspection satisfies the daily inspection requirement for that day. All suspended inspections will be documented in the inspection log described in Section 6A.2. The decision to suspend a permit required inspection requires verbal notification to the Department of Ecology.~~

~~6A.2 Inspection Log~~

Inspection checklists will be used to document completion of the inspection schedule in this plan. These checklists will be records of the items contained in the inspection schedule and will be kept as a hardcopy or an electronic copy. Records of completed inspections will include the date and time of inspection; the legible, printed name and hand written signature of the inspector (or equivalent), a notation of the observations made, an account of spills or discharges and the date and nature of any repairs or remedial actions taken. Inspection records will be placed in the WTP Unit operating record.

~~Personnel performing these inspections will be appropriately trained and qualified in the system being inspected as prescribed in Chapter 8.0, Personnel Training. When performing the inspection, the inspector will note all observations and deficiencies on the inspection sheet. Inspection deficiencies discovered by the inspector and corrective actions that have been initiated are delegated to responsible individuals in the operations group.~~ Completed and/or suspended inspection checklists are stored in the WTP operating record for at least 5 years from the date of the inspection.

For Suspended Inspections, further detail can be found in Section 6A.4.

~~6A.2.1~~6A.1.4 Schedule for Remedial Action for Problems Revealed

~~6A.2.2 Remedies~~

Problems revealed by inspections will be corrected on a schedule that prevents hazards to the public health and environment. If inspections show that nonemergency maintenance is required, maintenance is completed as soon as possible to prevent further damage and to reduce the need for subsequent emergency response. Non-emergency corrective actions will be initiated within 24 hours if possible; however, additional response time may be required because of the radioactive component of the waste being managed at the WTP. Where a hazard is imminent or has already occurred, remedial actions are taken immediately to prevent equipment damage and prevent hazards to human health and the environment.

If an inspection identifies a fire, explosion, or release involving a dangerous waste, or an imminent hazard to human health or the environment, the ~~WTP Contingency~~ "Building Emergency Plan," Chapter 7~~.0~~, is followed.

~~6A.3~~6A.2 Specific Process or Waste Type Inspection Requirements

~~6A.3.1~~6A.2.1 Container Inspections

The WTP will store Immobilized Low-Activity Waste (ILAW) in containers and Immobilized High-Level Waste (IHLW) in canisters, and secondary dangerous and mixed waste in containers. In the DFLAW Configuration, IHLAW canisters will not be utilized. For purposes of IHLW, the term canisters are used to specifically address the unique disposal requirements of the filled containers when operating in the

Baseline Configuration. Throughout this section, general references to containers also applies to the IHLW canisters. Inspections of container storage areas will be performed weekly when waste is in the storage areas.

~~6A.3.1.16~~6A.2.1.1 Immobilized Low-Activity Waste Containers ~~and High-Level Waste Canisters~~

Filled ILAW containers ~~and IHLW canisters~~ will be radioactive and thus, inspections must be performed remotely. Therefore, in lieu of conventional container inspections while the containers are in storage, each container will be inspected before and after filling~~, and when it is moved into and out of the ILAW and IHLW containment buildings or container storage areas~~. The containers will not contain free liquids, will be chemically and physically stable (not ignitable or reactive), and will have ~~either a welded closure (IHLW) or~~a pressed fitted closure seal (ILAW). ~~The IHLW canisters will be placed in special racks inside the storage areas that will prevent them from toppling.~~

The WTP will inspect the ~~I~~LAW ~~and IHLW~~ container storage or containment ~~building~~ areas, when they are in use, weekly by remote means. As specified in III.10.D.4.b.ii, these remotely managed storage areas are exempt from the 30-inch aisle spacing. ILAW ~~and IHLW~~ containers~~/canisters~~ aisle spacing is anticipated to be in the range of 4 to 16 inches, as described in Chapter 4E.1.2.~~1 and 4F.1.2.1, respectively~~. Table 6A-3a ~~and Table 6A-4a~~ details the methods and criteria used to inspect the ILAW containers ~~and IHLW canisters, respectively~~.

The dangerous waste container labeling requirements will be met by using a unique alphanumeric identifier that will be welded to each container. Deterioration of the identifier is not expected due to the permanent nature of these markings and provisions for subsequent handling that will safeguard against damage to the containers and the identifying marks.

Using the identification on each container, a tracking system will record key movements of each immobilized waste container through the facility. ~~Information about the waste canister tracking system is in Chapter 4.0.~~ For each container of ILAW ~~and IHLW produced~~, the system will track the following:

- The location of each container in process and storage areas.
- The date that waste was first placed in the container.
- The date the container was shipped from the facility, and its destination.
- ~~The nature of waste in the container, including d~~Dangerous waste designation codes, and land disposal restriction requirements.

6A.2.1.2 High-Level Waste Canisters

Filled HLW canisters will be radioactive and thus, inspections must be performed remotely. Therefore, in lieu of conventional container inspections while the containers are in storage, each container will be inspected before and after filling, and when it is moved into and out of the HLW miscellaneous unit. The containers will not contain free liquids, will be chemically stable (not ignitable or reactive), and will have a welded closure. The IHLW canisters will be placed in special racks inside the storage areas that will prevent from toppling.

The WTP will inspect the HLW containment miscellaneous unit areas; when they are in use, weekly by remote means. As specified in III.10.D.4.b.ii, these remotely managed storage areas are exempt from the 30-inch aisle spacing. IHLW aisle spacing is anticipated to be in the range of 4 to 16 inches, as described in Chapter 4F.1.2.1. Table 6A-5a details the methods and criteria used to inspect the IHLW canisters.

The dangerous waste container labeling requirements will be met by using a unique alphanumeric identifier that will be welded to each container. Deterioration of the identifier is not expected due to the permanent nature of these markings and provisions for subsequent handling that will safeguard against damage to the containers and the identifying marks.

Using the identification on each container, a tracking system will record key movements of each immobilized waste container through the facility. Information about the waste canister tracking system is in Chapter 4.0. For each container of IHLW produced, the system will track the following:

- The location of each container in process and storage areas.
- The date the waste was first placed in the container.
- The date the container was shipped from the facility, and its destination.
- Dangerous waste designation codes, and land disposal restriction requirements.

~~6A.3.1.2~~6A.2.1.3 Secondary and Miscellaneous Waste in Containers

Secondary waste refers to newly generated waste (or a waste by-product from treating the Hanford tanks waste) that is designated as dangerous waste and/or mixed waste. Secondary waste will be generated at the WTP, for example, waste associated with laboratory activities, maintenance activities and failed contaminated equipment. Containerized secondary and miscellaneous waste that has been designated as dangerous or mixed waste will be inspected weekly. Additional inspection criteria are included in the container storage inspection tables at the end of this chapter.

6A.2.1.4 Container Storage Areas

Container Storage Areas managing secondary and/or miscellaneous mixed wastes are inspected weekly. Inspections of container storage areas include verifying major risk labels are present and legible, that all containers are closed, and area and aisle space is free of liquid and debris. Additional inspection criteria are included in the container storage inspection tables at the end of this chapter.

6A.2.1.5 Tanks and Miscellaneous Units

In the DFLAW Configuration, the secondary containment systems for the WTP Unit Tank Systems listed in Inspection Tables 6A-3c and 6A-4b, are free of cracks or gaps to prevent migration of dangerous and/or mixed waste or accumulated liquid out of the system to the soil, groundwater, or surface water at any time that waste is in the tank system. Any indication that a crack or gap may exist in the containment systems will be investigated and repaired in accordance with [WAC 173-303-320, WAC 173-303-640(4)(b)(i), WAC 173-303-640(4)(e)(i)(C), WAC 173-303-640(6), and WAC 173-303-806(4)(c)(vii)].

6A.2.1.6 Secondary Containment Leak Detection/Correction

Leak detection systems are used for secondary containment of the WTP Unit tank systems. If liquids (e.g., dangerous and/or mixed waste leaks and spills, precipitation, fire water liquids from damaged or broken pipes) cannot be removed from the secondary containment system within twenty-four (24) hours, Ecology will be verbally notified within twenty-four (24) hours of discovery. The notification will provide the information in A, B, and C listed below. The Permittees will provide Ecology with a written summary within fourteen (14) business days; identifying at a minimum the following:

A. Reasons for delayed renewal.
B. Measures implemented to ensure continued inspection protection of human health and the environment.
C. Current actions being taken to remove liquids from secondary containment.

Throughout the active life of the containment miscellaneous unit, if the Permittees detect a condition that could lead to or has caused a release of dangerous and/or mixed waste, the Permittees must repair the condition promptly.

The inspection data for the containment miscellaneous units will be recorded in the inspection log, as described in 6A.1.3 and in accordance with [WAC 173-303-640(4)(c)(iv), WAC 173-303-640(7)(b)(ii), WAC 173-303-806(4)(c)(vii)].

6A.2.1.7 Instrument Calibration

Each instrument must be calibrated in accordance with documented preventive maintenance instructions. A computerized tracking system is used to identify and schedule preventive maintenance and calibration activities. All instrument calibrations must be accomplished using measuring and test equipment with accuracy and reliability. Certain equipment calibration might not be possible when LAW is operating. If the LAW campaign prohibits instrument calibration, these activities will be scheduled during outages to avoid interference with operating activities.

6A.2.1.8 Tank System Remedies

If a leak or spill of dangerous and/or mixed waste is detected in a secondary containment system during the course of an inspection, the Permittees will follow the remedial actions found in Permit Condition III.10.E.5.i.

If the source of the dangerous wastes and/or mixed waste is determined to be a leak from a primary WTP Unit Tank System, or the system is unfit for use as determined through an integrity assessment or other inspection, the Permittees must comply with the requirements of WAC 173-303-640(7) and take the following actions [WAC 173-303-640(5)(c)]:

A. Close the tank system according to procedures in WAC 173-303-640(7)(e)(i).

B. Repair and re-certify [in accordance with WAC 173-303-810(13)(1)].

6A.2.1.9 Integrity Assessments

Periodic integrity assessments will be performed over the life of the regulated tank systems to assure they retain their structural integrity and will not collapse, rupture, or fail. The frequency of integrity assessments will be based on the potential for corrosion and erosion. For the Lab, LAW, and EMF operations integrity assessments will be completed after reducing inventory in the affected tank(s) and/or Miscellaneous Unit(s) (MU) making the area accessible. Details on facility specific integrity assessment plans can be found in Appendix 7.15.

Lower Potential

Assessment of equipment with lower potential for corrosion and erosion with accessible areas or hot cells is made during the routine or maintenance outages and within 10 years after start of hot commissioning at selected accessible points where baseline Non-Destructive Examination (NDE) measurements had been taken. Subsequent integrity assessments will be based on the results of the previous integrity assessments, the age of equipment, materials of construction, characteristics of the waste, and any other relevant factors [WAC 173-303-640(2)], but there will be no more than 10 years between integrity assessments.

Higher Potential

Assessment of equipment with higher potential for corrosion and erosion with accessible areas is made during routine or maintenance outages and within 7 years after the start of hot commissioning at selected accessible points where baseline NDE measurements had been taken. Subsequent integrity assessments will be based on the results of previous integrity assessments, the age of equipment, materials of construction, characteristics of the waste, and any other relevant factors but there will be no more than 7 years between integrity assessments.

6A.2.2 Low-Activity Waste Containment Miscellaneous Units

The containment miscellaneous units will be inspected in accordance with Table 6A-3a.

~~6A.3.2~~6A.2.3 Storage of Ignitable or Reactive Wastes

Small amounts of ignitable (D001) and reactive (D003) waste may be generated as secondary waste during lab maintenance activities or laboratory operations. Management of this waste will be performed either in Lab Pack Room (A-0139A), Waste Management Room (A-0139) or the WTP waste storage pad in accordance with WAC 173-303-395. Annual inspections of areas managing D001 and D003 waste will be conducted in compliance with the International Fire Code, or in the presence of the local, state, or federal fire marshal. The date and time of the inspection, the name of the inspector or fire marshal, a notation of the observation made, and any remedial actions, will be documented in the inspection log.

6A.2.4 Cathodic Protection System

The treated low-activity waste feed is transferred through underground high-density polyethelene (HDPE) jacketed co-axial (pipe-in-pipe) transfer lines from the Tank Farms to the LAW Facility, and then between EMF and the Lab, LAW Facility, and the Tank Farms. The annular space of the outer co-axial pipe provides secondary containment and all transfer line piping is sloped to a leak detection box equipped with a thermal level switch to provide leak detection. In addition, inspections of the cathodic protection system will be conducted in accordance with the governing NACE standards and WAC 173-303-320.

The insulated HDPE-jacket co-axial/duplex underground piping does not require cathodic protection because its secondary containment, carbon steel pipe, is isolated from soil moisture.

Table 6A-2b identifies leak detection boxes, frequency, and methods of inspection.

Cathodic protection systems are further defined in Chapter 4I, Section 4I.10.

6A.2.5 Routinely Non-Accessible Inspections

Rooms in the WTP Unit, in the DFLAW Configuration, are determined to be routinely non-accessible because of high radiation dose and confined space entry. Remote inspections will be conducted via instrument readouts. Visual inspections cannot be performed. During outages, detailed inspections will be completed. Table 6A-3d describes the locations for DFLAW facilities.

All routinely non-accessible access points will be marked with labels or signs to identify the waste contained in the units. The label, or sign, will be placed at the entrance to the routinely non-accessible room or process cell. The label or sign must be legible at a distance of at least fifty (50) feet or posted at each entrance and bear a legend which identifies the waste in a manner that adequately warms employees, emergency response personnel, and the public of the major risk(s) associated with the waste being stored or treated in the miscellaneous unit system(s). This applies for the following systems:

- LAW, Lab and EMF Tank Systems.
- LAW and Lab Miscellaneous Units Systems.
- LAW and HLW Vitrification Sub-systems.
- Pretreatment Facility.

6A.2.5.1 Tank System Inspections

A description of the tank systems, and their safety and interlock controls, at the WTP can be found in Chapter 4~~.0~~. Access to regulated tanks for inspection and integrity assessments must be consistent with keeping radiation exposure ALARA. Each tank or grouping of identical tanks is shown as a line item in the facility specific inspection schedule, in Table 6A-3b, Table 6A-4~~a~~b, Table 6A-5b, and Table 6A-6b. Each inspection item includes a description of problems to look for and the frequency of inspection. The inspection will address the tanks overfill and spill control equipment, data gathered from monitoring and

leak detection equipment, ~~construction materials,~~ the area immediately surrounding the externally accessible portion of the tank as well as secondary containment system.

~~6A.3.2.1 Tank System Integrity Assessments~~

~~Periodic integrity assessments will be performed over the life of the regulated tank systems to assure they retain their structural integrity and will not collapse, rupture, or fail. The frequency of integrity assessments will be based on the potential for corrosion and erosion. The classification system allows extra assessment efforts to be focused on tank system that may have the highest potential consequences if failure or loss of containment should occur.~~

~~Assessment of equipment with lower potential for corrosion and erosion with accessible areas or hot cells is made during the routine or maintenance outages and within 10 years after start of hot commissioning at selected accessible points where baseline Non-Destructive Examination (NDE) measurements had been taken. Subsequent integrity assessments will be based on the results of previous integrity assessments, the age of the equipment, materials of construction, characteristics of the waste, and any other relevant factors, but there will be no more than 10 years between integrity assessments.~~

~~Assessment of equipment with higher potential for corrosion and erosion within accessible areas is made during routine or maintenance outages and within 7 years after the start of hot commissioning at selected accessible points where baseline NDE measurements had been taken. Subsequent integrity assessments will be based on the results of previous integrity assessments, the age of the equipment, materials of construction, characteristics of the waste, and any other relevant factors but there will be no more than 7 years between integrity assessments.~~

~~6A.3.2.2 Tank Systems – Corrective Actions~~

~~If a leak or spill of dangerous and/or mixed waste is detected in a secondary containment system during the course of an inspection, the permittee will follow the remedial actions found in permit condition III.10.E.5.i.~~

~~6A.4 Storage of Ignitable or Reactive Wastes~~

~~Small amounts of ignitable (D001) and reactive (D003) waste may be generated as secondary waste during maintenance and laboratory operations. Management of this waste will be performed either in Lab Pack Room (A-0139A) or Waste Drum Management Room (A-0139), in accordance with WAC 173-303-395. Annual inspections of all areas managing D001 and D003 waste will be conducted by personnel familiar with the International Fire Code, or in the presence of the local, state, or federal fire marshal. The date and time of the inspection, the name of the inspector or fire marshal, a notation of the observation made, and any remedial actions, will be documented in the inspection log.~~

~~6A.4.1 Secondary and Miscellaneous Waste in Containers~~

~~Container Storage Areas managing secondary and/or miscellaneous wastes are inspected at least every seven days. Inspections of container storage areas include verifying major risk labels are present and legible, that all containers are closed, and area and aisle space is free of liquid and debris. Additional inspection criteria are included in the container storage inspection tables at the end of this chapter.~~

~~6A.5~~6A.3 Air Emissions Control and Detection

~~6A.5.1~~6A.3.1 Air Emissions from Process Vents (Subpart AA)

The WTP does not use any of the regulated devices or processes listed; therefore, the WTP will not be subject to regulation under Subpart AA (40 CFR 264).

~~6A.5.2~~6A.3.2 Air Emission Standards for Equipment Leaks (Subpart BB)

The WAC 173-303-691 and Subpart BB (40 CFR 264) applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight. This provision will not apply to the facility because the WTP will not accept or treat wastes with organic concentrations at or above 10 percent by weight. Compliance with this provision will be documented through analyses of verification samples, as described in the Waste Analysis Plan.

~~6A.5.3~~6A.3.3 Air Emission Standards for Tanks and Containers (Subpart CC)

The regulations specified under WAC 173-303-692 and 40 CFR Part 264 Subpart CC, incorporated by reference, do not apply to the WTP mixed waste tank systems and containers. These tanks and containers qualify as waste management units that are "…used solely for the management of radioactive mixed~~dangerous~~ waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act" and are excluded under WAC 173-303-692(1)(b)(vi).

Containers or tanks bearing nonradioactive, dangerous waste, such as maintenance and laboratory waste, that are not excluded under WAC 173-303-692(1)(b)(ii) or 40 CFR 264.1082(c), will comply with the container and tank standards specified under 40 CFR part 264 Subpart CC.

6A.4 Suspended Inspections

When a dangerous waste management unit is no longer receiving, containing, managing, or treating waste, the unit's specific inspections may be suspended. During these situations, inspections can be suspended until the affected system is placed back into dangerous waste operation. Prior to resuming dangerous waste operations, "initial" inspections will be conducted when the system is brought back online and regularly scheduled inspections are resumed. Inspections detailed in Table 6A-1 cannot be suspended.

In the case an inspection has been suspended prior to the expiration of the next scheduled inspection, the inspection requirement is satisfied by performing the inspection prior to resuming dangerous waste operations. In the case of suspended daily inspections, the initial (restart) inspection satisfies the daily inspection requirement for that day. All suspended inspections will be documented in the inspection log described in Section 6A.2. The Department of Ecology WTP Permit Coordinator will receive a written notification (e.g., email) when an inspection has been suspended.

Table 6A-1 General Facility Inspections[1]

Item	Inspections	Frequency	Method
Security Devices			
WTP inner fence (i.e., active portion)	Check for appearance, damage and tampering.	Monthly	Physical
Warning signs to read "Danger – Unauthorized Personnel Keep Out"	Verify signs are present, legible from a distance of 25 ft, and visible; ensure buildings or rooms containing dangerous and/or missed waste are posted.		
Points of access to active portions turnstiles, doors, and/or magnetic encoded bar readers	Verify Operability	Monthly	Functional
Emergency Preparedness Equipment			
Safety showers and eyewash stations	Verify operability ~~and sufficient pressure~~	Weekly	Physical
Fire ~~Detectors~~Alarms and Signaling Systems	~~Check for appearance, damage or signs of tampering~~Perform visual inspection of Fire Alarm System for damage and changes that impact system performance.	Semi-Annual	Physical
	Verify Operability	Annually	Functional
Automatic fire suppression system(s)	Verify Operability	Annually	Functional
Portable fire extinguishers (all types)	Check for adequate charge	Monthly	Physical
Emergency and exit lighting	Test Operability	Monthly	Functional
Spill kit and spill control equipment	~~Verify Contents Complete~~The spill kit is present and the seal is intact.	Quarterly	Physical
~~Personal protective clothing and equipment~~	~~Ensure supplies meet ERP listing and requirements~~	~~Quarterly~~	~~Physical~~
Communications Equipment			
Emergency sirens and alarms	Verify Operability	Monthly	Functional
Voice paging system (pagers or PA system)			
Emergency ~~t~~Telephones			

Table 6A-1 General Facility Inspections[1]

Item	Inspections	Frequency	Method
Power Supply Inspections			
Emergency uninterruptible power supply system(s)	Verify Operability	Annual	Functional
Emergency turbine generator[2]	Perform no-load test and verify sufficient fuel	~~Annual~~ RESERVED	Functional

[1] Inspections a~~A~~ppli~~es~~y to active portions (i.e., Laboratory) of the ~~WTP~~ Facility in the DFLAW Configuration.

[2] Only applies to Baseline Configuration (HLW Facility).

Table 6A-2 Lab Inspection Plan

Table 6A-2a Lab Container Storage Inspections

Item	Inspection	Frequency	Method
Dangerous and Mixed Waste Container Storage Areas			
Laboratory Waste Management Areas (A-0139) (A-0139A/B/C/D)	Verify major risk labels (e.g, toxic) present and legible, ensure all containers are closed; Check that container storage areas are free of liquid and debris; Check for ~~significant~~ cracks, gaps, and other signs of deterioration of storage area floors; Verify minimum 30 inches of aisle space between containers; Verify that any dangerous and or mixed waste container holding free liquids have portable secondary containment and no liquids accumulated in portable secondary containment	Weekly	Physical
Container Storage areas storing ignitable or reactive waste	Inspection must be performed ~~, by professional person or~~ in the presence of a professional person who is familiar ~~fire marshal for compliance~~ with the International Fire code, or in the presence of the local, state, or federal fire marshal[1]	Annual	Physical

[1] WAC 173-303-395(1)(d).

Table 6A-2b Lab Tank System and Ancillary Equipment Inspections

Item	Types of Problems/Inspection	Frequency	Method
Analytical Laboratory Tank Systems: RLD-VSL-00164 RLD-VSL-00165[1]			
Tank level switches and transmitters for Spill control equipment/overfill controls	Check for proper operation and review of alarm status	Daily	~~Remote~~ CCTV and/or Physical
	~~Check Interlock Initiation~~	~~Weekly~~	~~Remote~~
~~Spill control equipment/overfill controls~~	~~Check for proper operation~~	~~Daily~~	~~Remote~~
Tank ancillary equipment (e.g., pumps, piping)	Check for corrosion and/or physical damage (e.g., releases)	Daily[2]	CCTV and/or Physical
Tank integrity assessment	Review Operating History	2 years	Physical
	~~Visual Inspections~~	~~2 years~~	~~Physical or Remote~~
	Nondestructive Examination	10 years	Physical
Secondary Containment Sump Systems: Sumps associated with RLD-VSL-00164: RLD-SUMP-00041, -00045 Sumps associated with RLD-VSL-00165: RLD-SUMP-00042, -00043A/B, -00044~~, -00045~~			
Level switches and transmitters	Check for proper operation and review of alarm status	Daily	~~Remote~~ CCTV, Observation on windows, control panels
Sump integrity assessment	Review Operating History	2 years	Physical
	~~Visual Inspection~~	~~2 years~~	~~Physical or Remote~~
	Nondestructive Examination[23]	10 years	Physical
Leak Detection Boxes: Leak Detection Boxes associated with RLD-VSL-00164: RLD-LDB-00005, -00006, -00007, -00008, -00011 Leak Detection Boxes associated with RLD-VSL-00165: RLD-LDB-00002, -00004, -00009			

Table 6A-2b Lab Tank System and Ancillary Equipment Inspections

Item	Types of Problems/Inspection	Frequency	Method
Level switches and transmitters	Check for proper operation and review of alarm status	Daily	~~Remote~~ CCTV, Observation windows, control panels
Integrity assessment	Review Operating History	2 years	Physical

[1] ~~Inspections apply to active portions of the facility.~~ RLD-VSL-00165, including associated sumps and leak detection boxes, will not be active under the DFLAW Configuration. Inspections apply to active portions of the facility in the DFLAW Configuration.

[2] Per WAC 173-303-640(6)(b).

[3] Nondestructive examination will only be conducted for sumps that were found to have managed dangerous waste during the operating history review.

Table 6A-3 ~~Example –~~ Low Activity Waste Inspection Plan

Table 6A-3a ~~Example –~~ Low Activity Waste Containment ~~Building~~ Miscellaneous Units and Container Storage Inspections

LAW Containment ~~Rooms~~Miscellaneous Units

LAW LSM Gallery: L-0112

LAW Container Finishing Line: L-0109B, L-0109C, L-0109D, ~~L-0109E,~~ L-0115B, L-0115C, L-0115D~~, L-0115D, L-0115E~~

LAW Consumable Import/Export Containment ~~Building~~Miscellaneous Unit: L-0119B

LAW C3 Workshop Containment ~~Building~~Miscellaneous Unit: L-0226A

LAW Melter Gallery: L-0130

LAW MSN Maintenance Shop: L-0226B

LAW Process Cell Charge Floor: L-0202

LAW Pour Cave Containment: ~~L-B009B,~~ L-B~~O~~011~~B~~C, ~~L-B011E,~~ L-B013B, L-B013C, L-B015A

ILAW Container Buffer Storage Containment ~~Building~~Miscellaneous Unit: L-B025B, L-B025C, L-B025D

LAW Secondary Offgas Equipment Room: L-0304F

Item	Inspection	Frequency	Method
Building exterior	Inspect the area ~~immediately~~ surrounding the containment room ~~building~~ to detect signs of releases of dangerous and/or mixed waste	Weekly	Physical
Interior rooms	Inspect floor and walls for ~~significant~~ cracks, gaps, corrosion, or other signs of deterioration; look for liquids on floor; when secondary wastes are being managed in the room		
	Check differential pressure monitoring records to ensure negative pressure has been maintained in the containment ~~building~~ room		

Table 6A-3a ~~Example –~~ Low Activity Waste Containment ~~Building~~ Miscellaneous Units and Container Storage Inspections

Container Storage areas storing ignitable or reactive waste	Inspection must be performed in the presence of a professional ~~by professional~~ person who is familiar with the International Fire Code, or in the presence of the local, state, or federal~~a~~ fire marshal[2] ~~for compliance with the International Fire code~~	Annual	Physical
Immobilized ILAW Container Storage in Containment ~~Buildings~~Miscellaneous Units			
ILAW containers	Inspect that unique alphanumeric identifier is welded to ILAW container and is legible	Prior to placing in storage	~~Remote~~ CCTV Observation windows, control panels
Filled ILAW containers[1]	Inspect each container for cracks, leaks, bulges, or other abnormalities	After sealing container	CCTV Observation windows, control panels ~~Remote~~
	Record in tracking system each container's location when placed in storage; Record in tracking system all container location changes if container(s) are moved while in storage; Verify container in recorded location when transporting container out of WTP storage	Within 48 hours of placing or moving each container	~~Remote~~ Process control system

[1] Direct access to containers of ILAW for the purposes of inspection is precluded due to ~~high~~ radioactivity levels; therefore, ILAW containers are exempt from the 30-inch aisle requirements (III.10.D.4.b.ii).

[2] WAC 173-303-395(1)(d).

1

Table 6A-3b ~~Example –~~ Low Activity Waste Tank System and Ancillary Equipment Inspections

Component Name **LCP:** LCP-VSL-00001, -00002 **LFP:** LFP-VSL-00001, -00002, -00003, -00004 **LVP:** LVP-TK-0000~~2~~1 **LOP:** LOP-VSL-00001, -00002 **RLD:** RLD-VSL-00003, -00004, -00005			
Item	**Types of Problems/Inspections**	**Frequency**	**Method**
Tank level switches and transmitters for Spill control equipment/overfill controls	Check for proper operation and review of alarm status	Daily	~~Remote~~ CCTV and/or Physical
	~~Check Interlock Initiation~~	~~Weekly~~	~~Remote~~
~~Spill control equipment/overfill controls~~	~~Check for proper operation~~	~~Daily~~	~~Remote~~
Tank ancillary equipment (e.g., pumps, piping)	Check for corrosion and/or physical damage (e.g., releases)	Daily[1]	CCTV and/or Physical
Tank integrity assessment	Review Operating History	~~TBD~~ 2 years	~~TBD~~ Physical
	~~Visual Inspections~~	~~TBD~~	~~TBD~~
	Nondestructive Examination[2]	~~TBD~~7 or 10 years	~~TBD~~ CCTV, Observation windows, control panels
Secondary Containment Sump System~~s~~: Sumps associated with the LAW Facility: RLD-SUMP-00028, -00029, -00030, 00031, 00032, 00035, 00036			
Level switches and transmitters	Check for proper operation and review of alarm status	Daily	~~Remote~~ CCTV, Observation windows, control panels
Sump integrity assessment	Review Operating History	~~TBD~~2 years	~~TBD~~ Physical
	~~Visual Inspection~~	~~TBD~~	~~TBD~~

Table 6A-3b ~~Example –~~ Low Activity Waste Tank System and Ancillary Equipment Inspections

	Nondestructive Examination[2]	~~TBD~~7 or 10 years	Process control system and/or Physical~~TBD~~

[1] Per WAC 173-303-640(6)(b).

[2] Lower potential – 10 years and Higher potential – 7 years.

1

Table 6A-3c ~~Example –~~ Low Activity Waste Miscellaneous Treatment Unit Inspections

Item	Plant Item Number	Types of Problems/Inspections	Frequency	Method
LAW Melter Process System (LMP)				
LAW melter 1 LAW melter 2	LMP-MLTR-00001 LMP-MLTR-00002	Check for ~~damage, leaks, or abnormalities~~signs of corrosion or physical damage	Daily	~~Remote~~ CCTV, Observation windows, control panels
		Inspect melter level monitoring data to prevent overflow		
LAW Primary Offgas Process System (LOP)				
Melter 1 and melter 2 submerged bed scrubbers	LOP-SCB-00001 LOP-SCB-00002	Check for signs of corrosion or physical damage~~TBD~~	Daily~~TBD~~	~~Remote~~ CCTV, Observation windows, control panels and/or Physical
Melter 1 and melter 2 wet electrostatic precipitators	LOP-WESP-00001 LOP-WESP-00002	Check for signs of corrosion or physical damage~~TBD~~	Daily~~TBD~~	~~Remote~~ CCTV, Observation windows, control panels and/or Physical
Primary/standby film coolers	LOP-FCLR-00001 LOP-FCLR-00002 LOP-FCLR-00003 LOP-FCLR-00004	Check for signs of corrosion or physical damage~~TBD~~	Daily~~TBD~~	~~Remote~~ CCTV, Observation windows, control panels and/or Physical

Table 6A-3c ~~Example –~~ Low Activity Waste Miscellaneous Treatment Unit Inspections

Item	Plant Item Number	Types of Problems/Inspections	Frequency	Method
LAW Secondary Offgas/Vessel Vent Process (LVP)				
Melter offgas caustic scrubber	LVP-SCB-00001	Check for signs of corrosion or physical damage~~TBD~~	Daily~~TBD~~	~~Remote~~ CCTV, Observation windows, control panels and/or Physical
Melter offgas HEPA filters	LVP-HEPA-00001A/B LVP-HEPA-00002A/2B LVP-HEPA-00003A	Check for signs of corrosion or physical damage~~TBD~~	~~TBD~~Daily	~~Remote~~ CCTV, Observation windows, control panels and/or Physical
Thermal catalytic oxidizer	LVP-SCO-00001	Check for signs of corrosion or physical damage~~TBD~~	Daily~~TBD~~	~~Remote~~ CCTV, Observation windows, control panels and/or Physical
NO_x selective catalytic reduction unit	LVP-SCR-00001	Check for signs of corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, control panels and/or Physical~~Remote~~
Melter offgas HEPA preheaters	LVP-HTR-00001A/1B	Check for signs of corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, control panels and/or Physical~~Remote~~
Catalytic oxidizer electric heater	LVP-HTR-00002	Check for signs of corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, control panels and/or Physical~~Remote~~

Table 6A-3c ~~Example –~~ Low Activity Waste Miscellaneous Treatment Unit Inspections

Item	Plant Item Number	Types of Problems/Inspections	Frequency	Method
Catalytic oxidizer heat recovery unit	LVP-HX-00001	Check for signs of corrosion or physical damage~~TBD~~	Daily~~TBD~~	Observation windows, control panels and/or Physical~~Remote~~
Offgas mercury adsorbers	LVP-ADBR-00001A/1B	Check for signs of corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, control panels and/or Physical~~Remote~~
Melter offgas exhausters	LVP-EXHR-00001A/1B/1C	Check for signs of corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, control panels and/or Physical~~Remote~~

1

1

Table 6A-3d Facility Routinely Non-Accessible System Inspections

Room Number	System Description	Elevation	Frequency	Method
LAW Facility				
L-B001B	**Tank Systems:** C3/C5 Drains/Sump Collection Vessel: RLD-VSL-00004	(-) 21’ -0”	Daily	CCTV, Observation windows, control panels
L-0123	**Tank Systems:** Melter 1 Concentrate Receipt Vessel: LCP-VSL-00001 Melter 1 Feed Preparation Vessel: LFP-VSL-00001 Melter 1 Feed Vessel: LFP-VSL-00002 Melter 1 Submerged Bed Scrubber (SBS) Condensate Vessel: LOP-VSL-00001	(+) 3’ -0”	Daily	CCTV, Observation windows, control panels
	Miscellaneous Units: Melter 1 SBS: LOP-SCB-00001 Melter 1 Wet Electrostatic Precipitator: LOP-WESP-00001			
L-0124	**Tank Systems:** Melter 2 Concentrate Receipt Vessel: LCP-VSL-00002 Melter 2 Feed Preparation Vessel: LFP-VSL-00003 Melter 2 Feed Vessel: LFP-VSL-00004 Melter 2 SBS Condensate Vessel: OP-VSL-00002			
	Miscellaneous Units: Melter 2 SBS: LOP-SCB-00002 Melter 2 Wet Electrostatic Precipitator: LOP-WESP-00002			
L-0126	**Miscellaneous Units:** Plant Wash Vessel: RLD-VSL-00003 SBS Condensate Collection Vessel: RLD-VSL-00005			
L--0109B	**Miscellaneous Unit:** Swabbing Cell – North Line			

Table 6A-3d Facility Routinely Non-Accessible System Inspections

Room Number	System Description	Elevation	Frequency	Method
L--0109C	**Miscellaneous Unit:** Decon Area – North Line			
L--0109D	**Miscellaneous Unit:** Inert Fill Line/Lidding Area – North Line			
L--0115B L--0115C	**Miscellaneous Unit:** Swabbing Cell – South Line			
L--0115D	**Miscellaneous Unit:** Inert Fill Line/Lidding Area – South Line			
EMF Facility				
ED-B001	**Tank System:** Low-Point Drain Vessel: DEP-VSL-00001	(-) 39’ -0”	Daily	CCTV, Observation windows, control panels
E-0105	**Tank Systems:** Evaporator Feed Vessel: DEP-VSL-00002 Evaporator Concentrate Vessel: DEP-VSL-00003A Evaporator Concentrate Vessel: DEP-VSL-00003B Evaporator Concentrate Vessel: DEP-VSL-00003C	(+) 0’ -0”	Daily	CCTV, Observation windows, control panels
LAB Facility Tank Systems				
A-B002	C3 Pump Pit	(+) 0’ -0”	Daily	CCTV, Observation windows, control panels
A-B005	C5 Pump Pit			
A-B006	C3 Piping Pit			
A-B007	C5 Piping Pit			
A-B003	Laboratory Area Sink Drain Collection Vessel: RLD-VSL-00164	(-) 19’ -2”	Daily	CCTV, Observation windows, control panels
A-B004	Hot Cell Drain Collection: RLD-VSL-00165[1] (isolated during DFLAW operations)			

[1] RLD-VSL-00165 will not be active under the DFLAW Configuration.

1

1 **Table 6A-4 ~~Example –~~ Effluent Management Facility Inspection Plan**

~~Table 6A-4a Example – EMF Containment Building and Container Storage Inspections~~

~~Item~~	~~Inspection~~	~~Frequency~~	~~Method~~
~~Building exterior~~	~~Inspect the area immediately surrounding the containment building to detect signs of releases of dangerous and/or mixed waste~~	~~Weekly~~	~~Physical~~
~~Interior rooms~~	~~Inspect floor and walls for significant cracks, gaps, corrosion, or other signs of deterioration; look for liquids on floor~~		
	~~Check differential pressure monitoring records to ensure negative pressure has been maintained in containment building~~		
~~Container Storage areas storing ignitable or reactive waste~~	~~Inspect, by professional person or in the presence of a fire marshal for compliance with the International Fire code~~	~~Annual~~	~~Physical~~

2

Table 6A-4ab ~~Example –~~ Effluent Management Facility Tank System and Ancillary Equipment Inspections

Component Name	Types of Problems/Inspections	Frequency	Method
DEP: DEP-VSL-00001, -00002, -00003A, -00003B, -00003C, 00004A, -00004B, -00005A, -00005B			
Tank level switches and transmitters for Spill control equipment/overfill controls	Check for proper operation and review of alarm status	Weekly~~Daily~~	~~Remote~~CCTV, Observation window, control panels and/or Physical
~~Spill control equipment/overfill controls~~	~~Check Interlock Initiation~~	~~Weekly~~	~~Remote~~
Tank ancillary equipment (e.g., pumps, piping)	Check for corrosion and/or physical damage (e.g., releases)	Daily[1]	CCTV, Observation window, control panels and/or Physical
Tank integrity assessment	~~Check for proper operation~~	~~Daily~~	~~Remote~~
	~~Review Operating History~~Review Operating History	~~TBD~~2 years	~~TBD~~CCTV, Observation window, control panels
	~~Visual Inspections~~Nondestructive Examination[2]	~~TBD~~7 or 10 years	~~TBD~~Process Control System
Secondary Containment Sump System			
Level switches and transmitters	Check for proper operation and review of alarm status	Daily	~~R~~CCTV, control panels, observation windows~~emote~~

Table 6A-4ab ~~Example –~~ Effluent Management Facility Tank System and Ancillary Equipment Inspections

Component Name	Types of Problems/Inspections	Frequency	Method
DEP: DEP-VSL-00001, -00002, -00003A, -00003B, -00003C, 00004A, -00004B, -00005A, -00005B			
Sump integrity assessment	~~Review Operating History~~ Review Operating History	~~TBD~~2 years	~~TBD~~Process Control System
	~~Visual Inspection~~	~~TBD~~	~~TBD~~
	Nondestructive Examination[2]	~~TBD~~ 7 or 10 years	~~TBD~~CCTV, Observation window, control panels and/or Physical

[1] Per WAC-173-303-640(6)(b).

[2] Lower potential – 10 years and Higher potential – 7 years.

1

Table 6A-4bc ~~Example –~~ Effluent Management Facility Miscellaneous Treatment Unit Inspections

Item	Plant Item number	Types of Problems/Inspections	Frequency	Method
DEP evaporator separator	DEP-EVAP-00001	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	~~TBD~~CCTV, Observation windows, process control system and/or physical
DEP evaporator reboiler	DEP-RBLR-00001	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~
Evaporator primary condenser	DEP-COND-00001	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~
Evaporator intercondenser	DEP-COND-00002	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~
Evaporator after condenser	DEP-COND-00003	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~
Process condensate lag storage transfer line filter	DEP-FILT-00002	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~

Table 6A-4bc ~~Example –~~ Effluent Management Facility Miscellaneous Treatment Unit Inspections

Item	Plant Item number	Types of Problems/Inspections	Frequency	Method
Evaporator Feed prefilter	DEP-FILT-00003	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~
Condensate duplex cartridge filter	DEP-FILT-00004A DEP-FILT-00004B	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~
Concentrate effluent cooler	DEP-HX-00001	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~
Process Ventilation primary HEPA	DVP-HEPA-00003A DVP-HEPA-00003B	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~
Process Ventilation secondary HEPA	DVP-HEPA-00004A DVP-HEPA-00004B	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~
Process Ventilation Heater	DVP-HTR-00001A/B	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~
Process Ventilation Exhauster	DVP-EXHR-00001A/B	Check for corrosion or physical damage~~TBD~~	Daily~~TBD~~	CCTV, Observation windows, process control system and/or physical~~TBD~~

1 **Table 6-5 Example – High Level Waste Inspection Plan**

Table 6A-5a Example – High Level Waste Containment Building and Container Storage Inspections

Item	Inspection	Frequency	Method
Containment Building Inspections			
Building exterior	Inspect the area immediately surrounding the containment building to detect signs of releases of dangerous and/ mixed waste	Weekly	Physical
Interior rooms	Inspect floor and walls for significant cracks, gaps, corrosion, or other signs of deterioration; look for liquids on floor		
	Check differential pressure monitoring records to ensure negative pressure has been maintained in containment building		
Dangerous and/or Mixed Waste Container Storage Inspections			
HLW east corridor (HC-0108/0109/0110) HLW loading area (H-0130)	Verify major risk labels present and legible, ensure all containers are closed; Check that container storage areas are free of liquid and debris; Check for significant cracks, gaps, and other signs of deterioration of storage area floors; Verify minimum 30 inches of aisle space between containers; Verify that any dangerous and or mixed waste container holding free liquids have portable secondary containment and no liquids accumulated in portable secondary containment	Weekly	Physical
Container Storage areas storing ignitable or reactive waste	Inspection must be performed~~, by professional person or~~ in the presence of a professional person who is familiar with the International Fire Code, or in the presence of the local, state, or federal fire marshal~~ for compliance with the International Fire code~~[2]	Annual	Physical
HLW Vitrification Plant Canister Storage Area			
IHLW canisters	Inspect that unique alphanumeric identifier is welded to IHLW canister and is legible	Prior to placing in storage	Remote

Table 6A-5a Example – High Level Waste Containment Building and Container Storage Inspections

Item	Inspection	Frequency	Method
Filled IHLW canisters[1]	Inspect each container for cracks, leaks, bulges, or other abnormalities	After sealing container	Remote
	Record in tracking system each container's location when placed in storage; Record in tracking system all container location changes if container(s) are moved while in storage; Verify container in recorded location when transporting container out of WTP storage	Within 48 hours of placing or moving each container	Remote
IHLW canister storage cave (H-0132)	Inspect for deformities in storage area floors or debris in storage area	Weekly	Remote

[1] Direct access to IHLW for the purposes of inspection is precluded due to high radioactivity levels; therefore, IHLW canisters are exempt from the 30-inch aisle space requirements (III.10.D.4.b.ii).

[2] WAC 173-303-395(1)(d).

Table 6A-5b Example – High Level Waste Tank System and Ancillary Equipment Inspections

High Level Waste Tank System **HOP:** HOP-VSL-00903, -00904 **HDH:** HDH-VSL-00001, -000002, -000003, -00004 **RLD:** RLD-VSL-00002, -00007, -00008 **HFP:** HFP-VSL-00001, -00002, -00005, -00006 **HSH:** HSH-TK-00001, -00002			
Item	**Types of Problems/Inspections**	**Frequency**	**Method**
Tank level switches and transmitters	Check for proper operation and review of alarm status	Daily	Remote
	~~Check Interlock Initiation~~	~~Weekly~~	~~Remote~~
Spill control equipment/overfill controls	Check for proper operation	Daily	Remote
Tank integrity assessment	Review Operating History	TBD	TBD
	Visual Inspections	TBD	TBD
	Nondestructive Examination	TBD	TBD
Secondary Containment Sump System			
Level switches and transmitters	Check for proper operation and review of alarm status	Daily	Remote

Table 6A-5b Example – High Level Waste Tank System and Ancillary Equipment Inspections

High Level Waste Tank System **HOP:** HOP-VSL-00903, -00904 **HDH:** HDH-VSL-00001, -000002, -000003, -00004 **RLD:** RLD-VSL-00002, -00007, -00008 **HFP:** HFP-VSL-00001, -00002, -00005, -00006 **HSH:** HSH-TK-00001, -00002			
Item	**Types of Problems/Inspections**	**Frequency**	**Method**
Sump integrity assessment	Review Operating History	TBD	TBD
	Visual Inspections	TBD	TBD
	Nondestructive Examination	TBD	TBD

1

Table 6A-5c Example – High Level Waste Miscellaneous Treatment Unit Inspections

Item	**Plant Item number**	**Types of Problems/Inspections**	**Frequency**	**Method**
~~LAW~~ HLW Melter Process System (HL~~L~~MP)				
HLW melter 1 HLW melter 2	HMP-MLTR-00001 HMP-MLTR-00002	Check for damage, leaks, or abnormalities	Daily	Remote
		Inspect melter level monitoring data to prevent overflow		
Melter Offgas Treatment Process System (HOP)				
SBS	HOP-SCB-00001 HOP-SCB-00002	TBD	TBD	TBD
Wet electrostatic precipitators (WESP)	HOP-WESP-00001 HOP-WESP-00002	TBD	TBD	TBD
Thermal catalytic oxidizer	HOP-SCO-00001 HOP-SCO-00004	TBD	TBD	TBD
NOx selective catalytic reduction units	HOP-SCR-00001 HOP-SCR-00002	TBD	TBD	TBD
Silver mordenite columns	HOP-ABS-00002 HOP-ABS-00003	TBD	TBD	TBD
HEPA filters	HOP-HEPA-00001A/B HOP-HEPA-00002A/B HOP-HEPA-00007A/B HOP-HEPA-00008A/B	TBD	TBD	TBD

Table 6A-5c Example – High Level Waste Miscellaneous Treatment Unit Inspections

Item	Plant Item number	Types of Problems/Inspections	Frequency	Method
Melter offgas film coolers	HOP-FCLR-00001/3 HOP-FCLR-00002/4	TBD	TBD	TBD
Catalyst skid preheaters	HOP-HX-00001 HOP-HX-00003	TBD	TBD	TBD
HEPA preheaters	HOP-HTR-00001B HOP-HTR-00002A HOP-HTR-00005A HOP-HTR-00005B	TBD	TBD	TBD
Catalyst skid electric Heaters	HOP-HTR-00007 HOP-HTR-00001	TBD	TBD	TBD
Silver mordenite preheaters	HOP-HX-00002 HOP-HX-00004	TBD	TBD	TBD
Stack extraction fans	HOP-FAN-00008A HOP-FAN-00008B HOP-FAN-00008C HOP-FAN-00010A HOP-FAN-00010B HOP-FAN-00010C	TBD	TBD	TBD
Booster extraction fans	HOP-FAN-00001A/B/C HOP-FAN-00009A/B/C	TBD	TBD	TBD
Activated carbon adsorber	HOP-ADBR-00001A/B HOP-ADBR-00002A/B	TBD	TBD	TBD
High efficiency mist eliminators (HEME)	HOP-HEME-00001A/B HOP-HEME-00002A/B	TBD	TBD	TBD
HLW Pulse Jet Ventilation System (PJV)				
PJV HEPA filters	PJV-HEPA-00004A/B PJV-HEPA-00005A/B	TBD	TBD	TBD
Pulse ventilation HEPA electric preheater	PJV-HTR-00002	TBD	TBD	TBD
Pulse vent extraction Fans	PJV-FAN-00002A/B	TBD	TBD	TBD

1

1 **Table 6A-6 Example – Pretreatment Facility Inspection Plan**

Table 6A-6a Example – Pretreatment Facility Containment Building Inspections

Pretreatment Hot Cell Containment Building: P-0123 **Pretreatment Maintenance Containment Rooms:** PM0124, P-0121A, P-0421A, P-0122A, P-0122A, P-0123A, P-0124, P-124A, P-0125, P-0125A, P-0128A, P-0128 **Pretreatment Filter Package Maintenance Containment Room:** P-0223 **Pretreatment Filter Cave Room:** P-0335 **Decon Chamber:** P-0335A **General Filter Room:** P-0431A			
Item	**Inspection**	**Frequency**	**Method**
Building exterior	Inspect the area immediately surrounding the containment building to detect signs of releases of dangerous and/or mixed waste	Weekly	Physical
Interior rooms	Inspect floor and walls for significant cracks, gaps, corrosion, or other signs of deterioration; look for liquids on floor		
	Check differential pressure monitoring records to ensure negative pressure has been maintained in containment building		

2

Table 6A-6b Example – Pretreatment Tank System and Ancillary Equipment Inspections

Pretreatment Facility Tank System **FRP:** FRP-VSL-00002A, -00002B, -00002C, -00002D **FEP:** FEP-VSL-00017A, -00017B, -00005 **HLP:** HLP-VSL-00027A, -00027B, -00022, -00028 **UFP:** UFP-VSL-00001A, -00001B, -00002A, -00002B, -00062A, -00062B, -00062C, UFP-FILT-00001A UFP-FILT-00001B UFP-FILT-00002A UFP-FILT-00002B UFP-FILT-00003A UFP-FILT-00003B, UFP-FILT-00004A, UFP-FILT-00004B, UFP-FILT-00005A, UFP-FILT-00005B **CXP:** CXP-VSL-00001, CXP-IXC-00001 CXP-IXC-00002 CXP-IXC-00003 CXP-IXC-00004, CXP-VSL-00005, CXP-VSL-00004, CXP-VSL-00026A CXP-VSL-00026B CXP-VSL-00026C **CNP:** CNP-VSL-00001, -00004, -00003 **PVP:** PVP-VSL-00001 **PWD:** PWD-VSL-00033, -00044, -00015, -00016, -00046, -00043 **TLP:** TLP-VSL-00002, -00009A, -00009B **TCP:** TCP-VSL-00001 **RDP:** RDP-VSL-00002A, -00002B, -00002C, -00004 **RLD:** RDP-TK-00006A, -00006B, -00017A, -00017B **PIH:** PIK-TK-00001			
Item	**Types of Problems/Inspections**	**Frequency**	**Method**
Tank level switches and transmitters	Check for proper operation and review of alarm status	Daily	Remote

Table 6A-6b Example – Pretreatment Tank System and Ancillary Equipment Inspections

Pretreatment Facility Tank System

FRP: FRP-VSL-00002A, -00002B, -00002C, -00002D

FEP: FEP-VSL-00017A, -00017B, -00005

HLP: HLP-VSL-00027A, -00027B, -00022, -00028

UFP: UFP-VSL-00001A, -00001B, -00002A, -00002B, -00062A, -00062B, -00062C, UFP-FILT-00001A UFP-FILT-00001B UFP-FILT-00002A UFP-FILT-00002B UFP-FILT-00003A UFP-FILT-00003B, UFP-FILT-00004A, UFP-FILT-00004B, UFP-FILT-00005A, UFP-FILT-00005B

CXP: CXP-VSL-00001, CXP-IXC-00001 CXP-IXC-00002 CXP-IXC-00003 CXP-IXC-00004, CXP-VSL-00005, CXP-VSL-00004, CXP-VSL-00026A CXP-VSL-00026B CXP-VSL-00026C

CNP: CNP-VSL-00001, -00004, -00003

PVP: PVP-VSL-00001

PWD: PWD-VSL-00033, -00044, -00015, -00016, -00046, -00043

TLP: TLP-VSL-00002, -00009A, -00009B

TCP: TCP-VSL-00001

RDP: RDP-VSL-00002A, -00002B, -00002C, -00004

RLD: RDP-TK-00006A, -00006B, -00017A, -00017B

PIH: PIK-TK-00001

Item	Types of Problems/Inspections	Frequency	Method
	~~Check Interlock Initiation~~	~~Weekly~~	~~Remote~~
Spill control equipment/ overfill controls	Check for proper operation	Daily	Remote
Tank integrity assessment	Review Operating History	2 years~~TBD~~	~~TBD~~ Physical
	~~Visual Inspections~~	~~TBD~~	~~TBD~~
	Nondestructive Examination	10 years~~TBD~~	Physical ~~TBD~~
Secondary Containment Sump System			
Level switches and transmitters	Check for proper operation and review of alarm status	Daily	Remote
Sump integrity assessment	Review Operating History	2 years~~TBD~~	Physical ~~TBD~~
	~~Visual Inspection~~	~~TBD~~	~~TBD~~
	Nondestructive Examination	TBD	TBD

Table 6A-6c Example – Pretreatment Miscellaneous Treatment Unit Inspections

Item	Plant Item number	Types of Problems/Inspections	Frequency	Method
Treated LAW Process System (TLP)				
Treated LAW evaporator separator vessel	TLP-SEP-00001	Inspect vessel level monitoring data to prevent overflow	Daily	TBD
Treated LAW reboiler	TLP-RBLR-00001	TBD	TBD	TBD
Treated LAW primary condenser	TLP-COND-00001	TBD	TBD	TBD
Treated LAW inter-condenser	TLP-COND-00003	TBD	TBD	TBD
Treated LAW after-condenser	TLP-COND-00002	TBD	TBD	TBD
Waste Feed Evaporator Feed Process System (FEP)				
Waste feed evaporator Separator vessels	FEP-SEP-00001A FEP-SEP-00001B	TBD	TBD	TBD
Waste feed evaporator reboilers	FEP-RBLR-00001A FEP-RBLR-00001B	TBD	TBD	TBD
Waste feed evaporator primary condensers	FEP-COND-00001A FEP-COND-00001B	TBD	TBD	TBD
Waste feed evaporator inter-condensers	FEP-COND-00002A FEP-COND-00002B	TBD	TBD	TBD
Waste feed evaporator after-condensers	FEP-COND-00003A FEP-COND-00003B	TBD	TBD	TBD
Pulse Jet Ventilation (PJV)				
PJV primary HEPA filters	PJV-HEPA-00001A PJV-HEPA-00001B PJV-HEPA-00001C PJV-HEPA-00001D PJV-HEPA-00001E PJV-HEPA-00001F PJV-HEPA-00001G	TBD	TBD	TBD

Table 6A-6c Example – Pretreatment Miscellaneous Treatment Unit Inspections

Item	Plant Item number	Types of Problems/Inspections	Frequency	Method
PJV secondary exhaust HEPA filters	PJV-HEPA-00002A PJV-HEPA-00002B PJV-HEPA-00002C PJV-HEPA-00002D PJV-HEPA-00002E PJV-HEPA-00002F	TBD	TBD	TBD
PJV exhaust fans	PJV-FAN-00001A PJV-FAN-00001B PJV-FAN-00001C	TBD	TBD	TBD
PJV demisters	PJV-DMST-00002A PJV-DMST-00002B PJV-DMST-00002C	TBD	TBD	TBD
Pretreatment Vessel Vent Process System (PVP)				
Electric heaters	PVP-HTR-00001A PVP-HTR-00001B PVP-HTR-00001C	TBD	TBD	TBD
Vessel vent after-cooler	PVP-CLR-00001	TBD	TBD	TBD
Vessel vent carbon bed adsorbers	PVP-ADBR-00001A PVP-ADBR-00001B	TBD	TBD	TBD
Vessel vent VOC oxidizer unit	PVP-OXID-00001	TBD	TBD	TBD
Vessel vent adsorber outlet filters	PVP-FILT-00001	TBD	TBD	TBD
Vessel vent HEME (mist eliminator)	PVP-HEME-00001A PVP-HEME-00001B PVP-HEME-00001C	TBD	TBD	TBD
Vessel vent scrubbing liquid cooler	PVP-HX-00002	TBD	TBD	TBD
Vessel vent caustic scrubber	PVP-SCB-00002	TBD	TBD	TBD
Pretreatment Vessel Vent Process and Exhaust System (PVV)				
Vessel vent HEPA primary filters	PVV-HEPA-00001A PVV-HEPA-00001B	TBD	TBD	TBD
Vessel vent HEPA secondary filters	PVV-HEPA-00002A PVV-HEPA-00002B	TBD	TBD	TBD
Vessel vent exhaust fans	PVV-FAN-00001A PVV-FAN-00001B	TBD	TBD	TBD

Table 6A-6c Example – Pretreatment Miscellaneous Treatment Unit Inspections

Item	Plant Item number	Types of Problems/Inspections	Frequency	Method
Cesium Nitric Acid Recovery Process System (CNP)				
Cesium evaporator separator vessel	CNP-EVAP-00001	TBD	TBD	TBD
Cesium evaporator concentrate reboiler	CNP-HX-00001	TBD	TBD	TBD
Cesium evaporator nitric acid rectifier column	CNP-DISTC-00001	TBD	TBD	TBD
Cesium evaporator primary condenser	CNP-HX-00002	TBD	TBD	TBD

Table 6A-7 ~~Example –~~ Balance of Facilities Inspection Plan

Table 6A-7a ~~Example –~~ Balance of Facilities Container Storage Inspections

Item	Inspection	Frequency	Method
Dangerous and Mixed Waste Container Storage Areas			
~~Failed melter storage area~~	~~Verify major risk labels present and legible, ensure all containers are closed; Check that container storage areas are free of liquid and debris; Check for significant cracks, gaps, and other signs of deterioration of storage area floors; Verify minimum 30 inches of aisle space between containers; Verify that any dangerous and or mixed waste container holding free liquids have portable secondary containment and no liquids accumulated in portable secondary containment~~	~~Weekly~~	~~Physical~~
WTP Waste Storage Area	Verify major risk labels (e.g., toxic) are present and legible, ensure all containers are closed; Check that container storage areas are free of liquid and debris; Check for cracks, gaps, and other signs of deterioration of storage area floors; Verify minimum 30 inches of aisle space are between containers; Verify that any dangerous and/or mixed waste container holding free liquids have portable secondary containment and no liquids have accumulated in portable secondary containment	Weekly	Physical
Waste Transportation Area	Check that transportation staging area is free of debris.	Weekly	Physical

Table 6A-7a ~~Example –~~ Balance of Facilities Container Storage Inspections

~~Non-radioactive dangerous waste container storage area~~	~~Verify major risk labels present and legible, ensure all containers are closed; Check that container storage areas are free of liquid and debris; Check for significant cracks, gaps, and other signs of deterioration of storage area floors; Verify minimum 30 inches of aisle space between containers; Verify that any dangerous and or mixed waste container holding free liquids have portable secondary containment and no liquids accumulated in portable secondary containment~~	~~Weekly~~	~~Physical~~
~~Non-radioactive dangerous waste container storage area~~WTP Waste Storage Area storing ignitable or reactive waste	Inspection must be performed in the presence of ~~, by professional~~a professional person who is familiar with the International Fire Code, or in the presence of the~~a~~ local, state, or federal fire marshal[1] ~~for compliance with the International Fire code~~.	Annual	Physical

[1] WAC 173-303-395(1)(d).

Table 6A-7b ~~Example –~~ Balance of Facilities Cathodic Protection Schedule-Dangerous Waste Transfer Lines

Item	Inspection	Frequency
Cathodic protection systems for dangerous and mixed waste transfer lines	Verify Proper Operation	Initial (less than 6 months after installation)
		Annual (from date of initial installation inspection
All sources of impressed current supporting cathodically protected dangerous and/or mixed waste transfer lines	Test for proper function	Every other month