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1	1	Cog. Mgr.: J.P. Hayfield	<i>J.P. Hayfield</i>	S6-18 9/1/94	Env.: D. Carpenter	<i>D. Carpenter</i>	H6-20 9/6/94	1	1	1	1
1	1	QA: J.C. Lo	<i>J.C. Lo</i>	S6-20 9/1/94	Safety: S.M. Albertin	<i>S.M. Albertin</i>	S5-60 9-1-94	1	1	1	1
1	1	Safety: R.V. Skinner	<i>R.V. Skinner</i>	S6-21 9-1-94	UO3 Ops: J.E. Cottrell	<i>J.E. Cottrell</i>	T7-20 9/1/94	1	1	1	1
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RELEASE AUTHORIZATION

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Release Date: 9/7/94

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**This document was reviewed following the
procedures described in WHC-CM-3-4 and is:**

APPROVED FOR PUBLIC RELEASE

* * * * *

WHC Information Release Administration Specialist:



Kara Broz

(Signature)

9/7/94

(Date)

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Signature

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7. Abstract

The UO, Deactivation End Point Criteria are necessary to facilitate the transfer of the UO, Facility from the Office of Facility Transition and Management (EM-60) to the Office of Environmental Restoration (EM-40). The criteria were derived from a logical process for determining end points for the systems and spaces at the UO, Facility based on the objectives, tasks, and expected future uses pertinent to that system or space. Furthermore, the established criteria meets the intent and supports the draft guidance for acceptance criteria prepared by EM-40, "U.S. Department of Energy Office of Environmental Restoration (EM-40) Decontamination and Decommissioning Guidance Document (Draft)."

For the UO, Facility, the overall objective of deactivation is to achieve a safe, stable and environmentally sound condition, suitable for an extended period, as quickly and economically as possible. Once deactivated, the facility is kept in its stable condition by means of a methodical surveillance and maintenance (S&M) program, pending ultimate decontamination and decommissioning (D&D).

Deactivation work involves a range of tasks, such as removal of hazardous material, elimination or shielding of radiation fields, partial decontamination to permit access for inspection, installation of monitors and alarms, etc. It is important that the end point of each of these tasks be established clearly and in advance, for the following reasons:

- End points must be such that the central element of the deactivation objective - to achieve stability - is unquestionably achieved.
- Much of the deactivation work involves worker exposure to radiation or dangerous materials. This can be minimized by avoiding unnecessary work.
- Each task is, in effect, competing for resources with other deactivation tasks and other facilities. By assuring that each task is appropriately bounded, DOE's overall resources can be used most fully and effectively.

This Supporting Document serves to delineate those specific Deactivation End Points for the UO, Facility.

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UO₃ DEACTIVATION END POINT CRITERIA

I. Executive Summary

Attached are the UO₃ Plant End Point Criteria necessary for the transfer of the UO₃ facility from the Office of Facility Transition and Management (EM-60) to the Office of Environmental Restoration (EM-40). The criteria were derived from a logical process for determining end points for the systems and spaces at the UO₃ facility based on the objectives, tasks, and expected future uses pertinent to that system or space. Furthermore, the established criteria meets the intent and supports the draft guidance for acceptance criteria prepared by EM-40, "U.S. Department of Energy Office of Environmental Restoration (EM-40) Decontamination and Decommissioning Guidance Document (Draft)."

II. Background

The UO₃ Plant was designed and constructed to convert uranyl nitrate hexahydrate (UNH) from Hanford processing plants to UO₃ powder by calcination. The majority of the UNH feed material was received from the PUREX Plant and thus, the UO₃ processing campaigns were determined by PUREX uranium product inventory buildup. In December 1992, the DOE Assistant Secretary for Environmental Restoration and Waste Management authorized the termination of both the PUREX and UO₃ plants and directed DOE-RL to proceed with the shutdown planning and terminal clean out activities. The final UO₃ Plant campaign occurred during June 1993 and standby was achieved in February 1994.

III. Introduction

The Department of Energy (DOE) is proceeding with the formidable task of deactivating those nuclear defense facilities which are no longer used or needed. There are many such facilities at DOE sites around the nation. Ultimately, all will be decontaminated and decommissioned, permanently eliminating any threat to the public or environment. However, with so many facilities requiring near term attention, DOE has been moving aggressively to assess the condition of the affected facilities, and to deactivate them on a prioritized basis, thus achieving the maximum degree of protection in the shortest possible period.

For each facility, the overall objective of deactivation is to achieve a safe, stable and environmentally sound condition, suitable for an extended period, as quickly and economically as possible. Once deactivated, the facility is kept in its stable condition by means of a methodical surveillance and maintenance (S&M) program, pending ultimate decontamination and decommissioning (D&D).

Deactivation work involves a range of tasks, such as removal of hazardous material, elimination or shielding of radiation fields, partial decontamination to permit access for inspection, installation of monitors and alarms, etc. It is important that the end point of each of these tasks be established clearly and in advance, for the following reasons:

- End points must be such that the central element of the deactivation objective - to achieve stability - is unquestionably achieved.
- Much of the deactivation work involves worker exposure to radiation or dangerous materials. This can be minimized by avoiding unnecessary work.
- Each task is, in effect, competing for resources with other deactivation tasks and other facilities. By assuring that each task is appropriately bounded, DOE's overall resources can be used most fully and effectively.

IV. End Point Principles

The UO₃ End Point Criteria were derived from a logical process of determining end points for each of the facility's systems and spaces based on the objectives, tasks, and expected future uses pertinent to that system or space. The end points are developed in a hierarchical way, in successively more detailed levels, to the point of quantitative item-by-item end points suitable for developing engineering work plans and performing field work packages.

There are several guiding principles (ground rules) which form the foundation of the end point process. They are:

- Every end point decision should be driven by, and clearly linked to, top-tier program objectives, not by feasibility or capability. This is the central principle of the logic-based approach. End point determinations, along with allocation of resources and selection of methods, should all stem directly and clearly from program goals and top-tier objectives.
- The end point condition of the deactivated facility should employ defense-in-depth as a fundamental safety approach. As applied here, defense-in-depth involves three layers of protection: elimination of hazards, effective facility containment, and facility monitoring and control.
- End point decisions are integrally linked to decisions (and constraints) on resources and methods. Cost effectiveness is important. DOE needs to achieve maximum safety improvement for every deactivation dollar spent.

- A successful end point development requires ownership - "buy-in"- by all affected organizations including deactivation project planners, those who implement the plans, and the ultimate customers (EM-40). This should be an explicit part of the process.
- Work teams in the field need clear, quantitative completion criteria. They can't work effectively with vague or functional objectives. To be workable, end points must be:
 - established up front
 - clear, quantitative
 - feasible and practical.
- It is not known when or how the ultimate D&D will be done. Therefore, end point decisions should not be driven by D&D presumptions.
- End point development is an iterative process. Most end point decisions can be made during the planning stages early in the project, however, some will have to be revisited as deactivation proceeds.

V. End Point Methodology

Setting end points is a logical, top down process that takes into account the deactivation objectives, the kinds of deactivation work which is to be done (or considered), and the parts of the facility - spaces and systems - which will have to be dispositioned. The following is a brief synopsis of the process for establishing end points:

1. *Defining the Objectives*

Every end point is driven by an objective; therefore, step 1 is to define the top level deactivation objectives which will then form the basic criteria for the end points. For UO₃ Plant (and generally for all deactivation projects) they are:

- Protecting the public and the environment
- Facilitating S&M (while the facility is in the deactivated state)
- Facilitating the ultimate D&D work
- Complying with regulations and requirements
- Following through on commitments to stakeholders.

2. *Defining Task Areas*

Deactivation work involves a generic series of tasks which take the facility from its existing condition - with hazards and conditions resulting from its lifetime of operation - to its deactivated point. After consideration, if these tasks are necessary to meet the established objectives, personnel safety, pollution prevention/waste minimization, and ALARA/ALEA must be considered prior to performance. The primary tasks are:

- Elimination or reduction of hazards
- Dealing with radiation fields (elimination, shielding or isolation)
- Reducing contamination and preventing its spread
- Waste disposal
- Isolation and containment of residual, potentially hazardous materials or conditions
- Providing capability for ongoing monitoring and control of the facility
- Additional facility modification or refurbishment to support future work (S&M or D&D)
- Documentation and labeling.

3. *Classification of Systems and Spaces*

The facility is comprised of spaces and systems and end points need to be established for each. These can be classified, in terms of their intended deactivated condition, into six (6) cases, as follows:

- Internal spaces for which routine access will be required
- Internal spaces for which access is not expected
- External spaces including building exterior envelopes
- Systems/equipment which must be kept operational
- Systems/equipment to be mothballed (i.e., suitable for later refurbishment and operation)
- Systems/equipment to be abandoned in place.

4. *Integration of Objectives, Tasks and the Six Cases*

The overall process then is to assess the entire job (deactivation project) by examining its three dimensions - objectives, tasks, and spaces/systems - in a logical, top down manner. The general sequence is as follows:

Level I

- For each of the six (6) spaces/systems (e.g., Internal Space, Routine Access Required), a simple functional matrix is used to determine, in general terms, the kinds of tasks necessary to achieve the facility objectives and in that way, define end points in a top level, generic manner.

Level II

- Using the output of that evaluation, a set of common end point criteria are developed (in more detailed quantitative terms) for each of the six cases identified by the matrix. This common set of criteria applies to every element within the particular case classification.

Level III

- From the set of common end point criteria, a set of more specific case end points may be established at the engineering work plan/field work package level of detail. This criteria underscores a specific condition within the particular case classification which warrants additional attention. However, this set of more specific case end points may not represent all conditions necessary to meet the Level II criteria.

As part of the end point development process, when facility generic deactivation issues are identified (for example, appropriate radiation or contamination posting requirements), their resolutions are documented in the form of End Point Technical Information (EPTIs) for later reference and consistent application throughout the project.

The absence of an EPTI reference indicates it is strictly an agreement between the transferring and receiving organizations.

VI. Document Elements

Functional End Points (Level I Matrix) -

The initial matrix is used to determine, in general terms, the kinds of tasks necessary to achieve the facility objectives. It prioritizes or focuses the importance of each task as it relates to a particular objective into four general categories:

(1) Primary Considerations:

Those tasks, which due to the objectives they support, will likely be the controlling factor in setting the end point.

(2) **Secondary Considerations:**

Those tasks, which due to the objectives they support, will not likely be the controlling factor in setting the end point, but must be considered.

(3) **As Applicable:**

As applied in the end point matrices, "As Applicable" indicates that if there is an established regulation, requirement, or a commitment to stakeholder which applies to a particular task area, an end point shall be established accordingly.

(4) **Not Applicable:**

Those tasks which do not directly support a particular end point objective.

Common End Points (Level II Matrix) -

Each of the six (6) cases (spaces or systems) will have a matrix defining the end points which are common to every element within that case. For example, there may be 12 spaces within case 1 (internal spaces, routine access required) and the common criteria would apply to each of these 12 spaces.

Specific End Points (Level III Matrix) -

Each of the six (6) cases (spaces or systems) will have a matrix defining end points which are specific to only one element within that case. For example, there may be 12 spaces within Case 1, but only one of these spaces may have floor drains which need to be isolated.

VII. Document Format

The end point criteria is presented in six separate and distinct Cases. These sets are consistent with the six (6) classifications of systems and spaces;

Case 1: Internal Spaces, Routine Access Required

Case 2: Internal Spaces, No Access Expected

Case 3: External Spaces, Including Building Exterior Envelope

Case 4: System, Operational

Case 5: System, Mothballed

Case 6: System, Abandoned In Place

Each Case will include a functional matrix (level I), a comprehensive list comprised of all spaces or systems in that particular Case, a common end point matrix (level II), and a special case end point matrix (level III).

VIII. Definitions

ALARA

- As Low As Reasonably Achievable

ALEA

- As Low As Economically Achievable

As Applicable

- As applied in the End Point matrices, "As Applicable" indicates that if there is an established regulation, requirement, or a commitment to stakeholders which applies to a particular Task Area, an end point shall be established accordingly.

CASE 1 / Internal Spaces, Routine Access Required

- Spaces within a facility which routine access will be required.

CASE 2 / Internal Spaces, No Access Expected

- Spaces within a facility which routine access is not expected.

CASE 3 / External Spaces, Including Building Exterior Envelope

- Spaces subject to ambient conditions including the outside surfaces of buildings.

CASE 4 / System, Operational

- System is required to remain in service.

CASE 5 / System, Mothballed

- System is left in a state where it may be suitable for later refurbishment or operation to facilitate future S&M/D&D efforts.

CASE 6 / System, Abandoned In Place

- After meeting all applicable end points, the system is left in its benign state.

COMMON CRITERIA (LEVEL II)

- Each of the six (6) cases (spaces or systems) will have a matrix defining the end points which are common to every element within that case. For example, there may be 12 spaces within case 1 (internal spaces, routine access required) and the common criteria would apply to each of these 12 spaces.

Criticality

- A self-sustaining nuclear chain reaction.

D&D

- Decontamination and Decommissioning. May also imply the EM-40 DOE division.

EPTI

- End Point Technical Information. A compilation of documents to support end point conclusions.

FHA

- Fire Hazard Analysis

FUNCTIONAL MATRIX (LEVEL 1)

- The initial matrix is used to determine, in general terms, the kinds of tasks necessary to achieve the facility objectives. It prioritizes or focuses the importance of each task as it relates to a particular objective into four general categories:
 - Primary Considerations
 - Secondary Considerations
 - As Applicable
 - Not Applicable

HVAC

- Heating, Ventilation, and Air Conditioning

MCC

- Motor Control Center. MCC's are enclosures which contain electrical distribution equipment. i.e. switchgear, breakers, etc.

NEC

- National Electrical Code

Primary Consideration

- Those tasks, which due to the objective it supports, will likely be the controlling factor in setting the end point.

RBA

- Radiological Buffer Area

Reasonable Best Effort

- That effort where parameters are reduced to "As Low As Economically Achievable" (ALEA). Implies a "Best Management Practices" approach is used to reach a realistic, logical and cost-effective conclusion.

CA

- Contamination Area

Secondary Consideration

- Those tasks, which due to the objective it supports, will not likely be the controlling factor in setting the end point, but must be considered.

SME

- Subject Matter Expert

SPECIFIC CRITERIA (LEVEL III)

- Each of the six (6) cases (spaces or systems) will have a matrix defining end points which are specific to only one element within that case. For example, there may be 12 spaces within Case 1, but only one space may have floor drains which need to be isolated.

Stakeholder

- Stakeholders can be separated into three broad groups:
 - Traditional stakeholders are those that have concurrence or approval authority for Project activities and are within existing DOE Headquarters (DOE-HQ), DOE Richland Operations Office (DOE-RL), and WHC organizations (e.g., the independent safety and quality assurance organizations). These stakeholders include PUREX/UF₆ Deactivation Project participants and internal stakeholders whose active participation is necessary for the Project to succeed.
 - Legislated stakeholders are those who have collateral or enforcement authority, invoked through the legislative process, for Project activities. These stakeholders are partners to the Project, such as the Washington State Department of Ecology, Environmental Protection Agency, Department of Health and the Defense Nuclear Facilities Safety Board. Legislated stakeholders' active participation is necessary for success of the PUREX/UF₆ Deactivation Project.
 - Public stakeholders are those who influence DOE policy toward the Project through public advocacy or opinion. Public stakeholders include WHC employees, the general public, and advisory groups. Public stakeholders' participation is voluntary and generally depends on the PUREX/UF₆ Deactivation Project's perceived impact on their lives and interests.
 - Native American Nations

For the purposes of End Point Criteria, "Meet Commitments To Stakeholders" refers ONLY to the last three bullets above.

Surveillance Corridor

- The recommended pathway to be used for S&M activities.

T-Duct

- An enclosure which contains insulated wiring for equipment/instrumentation.

T-Hopper

- A container designed to transport UO_3 powder off-site.

TRU

- **Transuranic.** An element is TRU if it is comprised of atoms with an atomic number greater than 92. A compound, or waste matrix, is TRU if it has an activity greater than or equal to 100 nanocuries per gram.

UNH

- **Uranyl Nitrate Hexahydrate**

UO_3

- **Uranium Trioxide**

CASE 1
FUNCTIONAL
MATRIX
(Level I)

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UO₃ Functional End Point Matrix

Case 1 : Internal Spaces, Routine Access Required

TASK AREAS	END POINT OBJECTIVES				
	PROTECT PUBLIC & ENVIRONMENT	FACILITATE S&M •PROTECT WORKERS •REDUCE COST	FACILITATE D&D	COMPLY WITH REGULATIONS & REQUIREMENTS	MEET COMMITMENTS TO STAKEHOLDERS
1 HAZARDS - NUCLEAR AND NON-NUCLEAR - ELIMINATE OR REDUCE	* Lower residual threat of criticality, fire, explosion, etc.		✓ Resolve serious threats now (not left for D&D)	A Fire protection, asbestos	A
2 RADIATION FIELDS - REDUCE, SHIELD OR ISOLATE	* Radiation levels low enough to permit S&M		✓ Reasonable best effort	A Postings	
3 CONTAMINATION - REDUCE OR MITIGATE - PREVENT FUTURE SPREAD	* Reduce and/or control contamination levels to facilitate required access				
4 WASTE - REMOVE AND DISPOSE - PERMIT					
5 ISOLATE & CONTAIN	* Seal exterior envelope				
6 MONITOR & CONTROL - PROVIDE CAPABILITY	* Provisions in place to ensure against unmonitored releases to the environment		* Install systems as needed to permit safe entry		
7 REFURBISH OR INSTALL - REQUIRED S&M CAPABILITIES	* Structural repair, refurbishment as needed for entry personnel safety				
8 DOCUMENT & LABEL - EQUIPMENT - FACILITIES	* Document (including procedures) and label equipment to support safe entry		* Document and label appropriately to plan & execute D&D		

Shaded areas are not applicable

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

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CASE 1
SPACES

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<i>UO₃ Case 1 Spaces</i>
<i>Internal Spaces, Routine Access Required</i>
224-U First floor
224-U SWP lobby
224-U Second floor
224-U Switch gear room
224-U Third floor
224-U A thru D Canyon cells
224-U Legacy equipment <ul style="list-style-type: none">● F cell● Luckey pot room
224-UA
272-U Cold-shop

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CASE 1

COMMON

CRITERIA

(Level II)

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UO₃ COMMON END POINT CRITERIA

Internal Spaces, Routine Access Required

Case 1

Task Area (TA-1): Hazards		
Examples		
<ul style="list-style-type: none"> ● Criticality ● Fire hazard ● Structural Integrity 		<ul style="list-style-type: none"> ● Dangerous Materials ● Confined Spaces ● Electrical Circuits/Equipment
Objective	End Point	
Protect Public & Environment	*	Remove unattached combustible materials to reduce the fire hazard.
Facilitate S&M <ul style="list-style-type: none"> ● Protect Workers ● Reduce Cost 	*	<p>Criticality is impossible, UO₃ is an exempt facility. Ref EPTI #5, ECN #102620 of WHC-SD-CP-SAR-002, <u>UO₃ Plant Safety Analysis Report Rev 5.</u></p> <p>UO₃ is a Low Hazard Facility. Ref EPTI #6, EDT #123025 WHC-SD-CP-HC-002, <u>UO₃ Facility Hazard Classification Rev-0.</u></p> <p>Electrically de-energize equipment and deactivate instrumentation unless otherwise stated.</p> <p>Leave remaining dangerous materials in a state where they pose no threat to the environment or human health.</p>
Facilitate D&D	✓	Resolve serious threats now. This objective is addressed (if applicable) in the specific Space/System Matrix (Level 3).
Comply with Regulations & Requirements	A	<p>Fire protection/detection will be determined in the FHA.</p> <p>Meet the requirements of the "Hazardous Communication Program" as defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 2.1, Rev.0 (Ref EPTI #1).</p> <p>Identify remaining asbestos as part of the "Asbestos Control Program" defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 2.3, Rev.0 (Ref EPTI #2).</p> <p>Identify and post confined spaces in accordance with WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 3.1, Rev.1 (Ref EPTI #3).</p>
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Internal Spaces, Routine Access Required

Case 1

Task Area (TA-2): Radiation Fields	
Examples	
<ul style="list-style-type: none"> ● <u>Radiation Levels</u> - general area - hot spots 	<ul style="list-style-type: none"> ● <u>Temporary Rad Zones</u> ● <u>Fixed Contamination (Rad)</u>
Objective	End Point
<ul style="list-style-type: none"> Facilitate S&M ● Protect Workers ● Reduce Cost 	<p style="text-align: center;">*</p> <p>Maximum general dose rates will not exceed a "Radiological Buffer Area" as defined in <u>Hanford Site Radiological Control Manual (HSRCM-1)</u>, Chapter 2, Rev 2, Table 2-4 (Ref EPTI #4).</p> <p>There are no "Hot Spots" at the UO₃ facility as defined in <u>Hanford Site Radiological Control Manual (HSRCM-1)</u>, Chapter 2, Rev 2, Table 2-4 (Ref EPTI #4).</p>
<ul style="list-style-type: none"> Facilitate D&D 	<p style="text-align: center;">✓</p> <p>Remove source material to mitigate radiation exposure using the "Reasonable Best Effort" methodology.</p>
<ul style="list-style-type: none"> Comply with Regulations & Requirements 	<p style="text-align: center;">A</p> <p>Remove temporary radiological zones.</p> <p>Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual (HSRCM-1)</u>, Chapter 2, Rev 2, (Ref EPTI #4).</p>
<ul style="list-style-type: none"> Meet Commitments to Stakeholders 	<p style="text-align: center;">A</p> <p>None.</p>

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
Internal Spaces, Routine Access Required
 Case 1

Task Area (TA-3): Contamination		
Examples		
<ul style="list-style-type: none"> ● <i>Beta/Gamma Non-fixed Contamination</i> ● <i>Alpha Non-fixed Contamination</i> ● <i>Contaminated Liquid Removal</i> 		
Objective	End Point	
<p style="text-align: center;">Facilitate S&M</p> <ul style="list-style-type: none"> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	<p>Reduce maximum removable contamination levels in the surveillance corridor (within current CA) to a "Contamination Area" as defined in <u>Hanford Site Radiological Control Manual</u> (HSRCM-1), Chapter 2, Rev 2, Table 2-5 (Ref EPTI #4). However, removable contamination levels outside the surveillance corridor may exceed a "Contamination Area".</p> <p>Define where S&M radioactive smear surveys of contaminated "Case 2" access points (locations) are required to ensure the contamination containment of the space. Include these locations in the turnover package.</p>
Facilitate D&D	✓	Remove source material to mitigate contamination migration using the "Reasonable Best Effort" methodology.
Comply with Regulations & Requirements	A	Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual</u> (HSRCM-1), Chapter 2, Rev 2 (Ref EPTI #4).
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
Internal Spaces, Routine Access Required
 Case 1

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i> 		
Objective	End Point	
<i>Facilitate D&D</i>	✓	Remove non-regulated waste using the "Reasonable Best Effort" methodology.
<i>Comply with Regulations & Requirements</i>	*	Remove/dispose of dangerous and mixed waste in accordance with State and Federal Regulations. Remove and handle emergency lantern batteries in accordance with WHC-EP-0063-4, <u>Hanford Solid Waste Acceptance Criteria</u> (Ref EPTI #12) and 49 CFR.
<i>Meet Commitments to Stakeholders</i>	A	None.

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Internal Spaces, Routine Access Required

Case 1

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● Sealing of Spaces ● Exterior Penetrations (animals, weather, etc.) 		<ul style="list-style-type: none"> ● Isolate Piping ● Security Systems
Objective	End Point	
Protect Public & Environment	*	Ensure engineered barriers/seals for penetrations (drains/piping/ventilation) to isolate source material and mitigate contamination migration to the environment.
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
Internal Spaces, Routine Access Required
 Case 1

Task Area (TA-6): Monitor & Control		
Examples		
<ul style="list-style-type: none"> ● Radiological Monitors ● Air Sampling Capability ● Sump Level Indication 		<ul style="list-style-type: none"> ● Electrical Distribution and Control ● HVAC Monitoring and Control
Objective	End Point	
Protect Public & Environment	*	Internal facility radiological monitors and air sampling capabilities are not required as defined in WHC-SD-SQA-TA-20005, <u>Technical Assessment of Compliance with Work Place Air Sampling Requirements at the UO₃ Facility</u> , Rev 1, (Ref EPTI #7). Deactivate sump monitoring since sources, water, and steam will be isolated from the facility.
Facilitate S&M ● Protect Workers ● Reduce Cost	*	Supply lighting electrical supply drawings as part of the turnover package.
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration
 Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
 Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
Internal Spaces, Routine Access Required
 Case 1

Task Area (TA-7): Refurbish or Install		
Examples		
<ul style="list-style-type: none"> ● <i>S&M Requirements/Procedures</i> ● <i>Operational Equipment Refurbished/Tested</i> ● <i>Spare Parts</i> 		
Objective	End Point	
Facilitate S&M ● <i>Protect Workers</i> ● <i>Reduce Cost</i>	*	Update the Building Emergency Plan to reflect the facility's status.
Meet Commitments to Stakeholders	A	None.

Primary Consideration
 Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
 Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Internal Spaces, Routine Access Required

Case 1

Task Area (TA-8): Document & Label		
Examples		
<ul style="list-style-type: none"> ● Proper Postings (radiological area, asbestos, etc.) ● Label Operational Equipment/Instrumentation ● Documentation: Radiological Conditions Equipment/System Configuration 		
Objective	End Point	
Facilitate S&M ● Protect Workers ● Reduce Cost	*	Document remaining hazards (operating equipment, asbestos, etc.). Develop a Surveillance & Maintenance plan, and include it in turnover package.
Facilitate D&D	*	Provide current plant engineering and administrative documentation to include deactivation work plans, certified vendor information (CVI), special nuclear material (SNM) inventory, final radiological surveys and maps, S&M procedures, checklists, and essential cell arrangement & lighting electrical distribution drawings. Complete off standard and audit finding reports (ie. radiation problem reports, event fact sheets, unusual occurrence and tiger team findings). Store remaining classified documents at records holding.
Comply with Regulations & Requirements	A	Document space dose rates and contamination levels in the final radiological survey report and map per <u>Hanford Site Radiological Control Manual (HSRCM-1)</u> , Chapter 5, Rev 2 (Ref EPTI #9). Implement Configuration Management per WHC-SD-HT-RPT-001, <u>WHC Uniform Configuration Management Approach for Deactivation of Transition Projects</u> , Rev.0 (Ref. EPTI #8).
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

CASE 1
SPECIFIC
CRITERIA
(Level III)

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UO₃ SPECIFIC END POINT CRITERIA
FIRST FLOOR OF 224-U
CASE 1

Task Area (TA-4): Waste	
Example	
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> 	<ul style="list-style-type: none"> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i>
Objective	End Point
Comply with Regulations & Requirements	* Remove batteries from Fire Protection building fire zone indication panels. Remove containers of biocides from Buffalo room.

Task Area (TA-5): Isolate & Contain	
Example	
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 	<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i>
Objective	End Point
Protect Public & Environment	* Isolate (plug) floor drains.

*

Primary Consideration
 Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
SWP LOBBY
CASE 1

Task Area (TA-3): Contamination		
Examples		
<ul style="list-style-type: none"> ● <i>Beta/Gamma Non-fixed Contamination</i> ● <i>Alpha Non-fixed Contamination</i> ● <i>Contaminated Liquid Removal</i> 		
Objective	End Point	
<ul style="list-style-type: none"> ● <i>Facilitate S & M</i> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	Reduce the SWP lobby from a CA to a RBA. This will assist in identifying any contamination migration from F-Cell or the old loadout room.

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Isolate Piping</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> ● <i>Security Systems</i> 		
Objective	End Point	
<ul style="list-style-type: none"> ● <i>Protect Public & Environment</i> 	*	Seal access doors into the old loadout room and F-Cell to prevent contamination migration.

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
SECOND FLOOR OF 224-U
CASE 1

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 		<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i>
Objective	End Point	
Protect Public & Environment	*	Isolate (plug) floor drains. Blank air compressor intake penetration. Seal craneway access doors.

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
224-U SECOND FLOOR SWITCH GEAR ROOM
CASE 1

Task Area (TA-1): Hazards		
Examples		
<ul style="list-style-type: none"> ● <i>Criticality</i> ● <i>Fire hazard</i> ● <i>Structural Integrity</i> 		<ul style="list-style-type: none"> ● <i>Dangerous Materials</i> ● <i>Confined Spaces</i> ● <i>Electrical Circuits/Equipment</i>
Objective	End Point	
<ul style="list-style-type: none"> Facilitate S & M ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	Remove equipment for use at another facility using "Good Management Practices".

Task Area (TA-3): Contamination		
Examples		
<ul style="list-style-type: none"> ● <i>Beta/Gamma Non-fixed Contamination</i> 		<ul style="list-style-type: none"> ● <i>Alpha Non-fixed Contamination</i> ● <i>Contaminated Liquid Removal</i>
Objective	End Point	
<ul style="list-style-type: none"> Facilitate S & M ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	Seal flanges of T-Duct in the switch gear room.

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
224-U SECOND FLOOR SWITCH GEAR ROOM
CASE 1

Task Area (TA-4): Waste	
Examples	
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> 	<ul style="list-style-type: none"> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i>
Objective	End Point
Comply with Regulations & Requirements	<p style="text-align: center;">*</p> <p>Remove the satellite accumulation area located in the switch gear room.</p> <p>Remove the batteries from the UPS system.</p>

Task Area (TA-8): Document & Label	
Examples	
<ul style="list-style-type: none"> ● <i>Proper Postings (radiological area, asbestos, etc.)</i> ● <i>Label Operational Equipment/Instrumentation</i> 	<ul style="list-style-type: none"> ● <u><i>Documentation:</i></u> <i>Radiological Conditions</i> <i>Equipment/System Configuration</i>
Objective	End Point
Comply with Regulations & Requirements	<p style="text-align: center;">A</p> <p>Survey and label the contamination levels of the internals of the T-Ducts.</p>

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
THIRD FLOOR OF 224-U
CASE 1

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 		<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i>
Objective	End Point	
Protect Public & Environment	*	Seal canyon observation shielding windows. Seal floor drains. Seal air compressor intake penetration to the facility exterior.

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
LEGACY EQUIPMENT - A, F CELLS & LUCKEY POT ROOM
CASE 1

Task Area (TA-1): Hazards		
Examples		
<ul style="list-style-type: none"> ● Criticality ● Fire hazard ● Structural Integrity 		<ul style="list-style-type: none"> ● Dangerous Materials ● Confined Spaces ● Electrical Circuits/Equipment
Objective	End Point	
Facilitate S & M <ul style="list-style-type: none"> ● Protect Workers ● Reduce Cost 	*	Quantify remaining material in the following: <ul style="list-style-type: none"> <li style="width: 33%;">● PE-4 <li style="width: 33%;">● PE-5 <li style="width: 33%;">● PE-6 <li style="width: 33%;">● PE-7 <li style="width: 33%;">● PE-8 <li style="width: 33%;">● PE-9 <li style="width: 33%;">● PE-13 <li style="width: 33%;">● PE-14 <li style="width: 33%;">● PE-15 <li style="width: 33%;">● PE-16 <li style="width: 33%;">● PE-17 <li style="width: 33%;">● PE-18 <li style="width: 33%;">● PE-19 <li style="width: 33%;">● PE-20 <li style="width: 33%;">● T-A1 <li style="width: 33%;">● EA-2

Task Area (TA-3): Contamination		
Examples		
<ul style="list-style-type: none"> ● Beta/Gamma Non-fixed Contamination 		<ul style="list-style-type: none"> ● Alpha Non-fixed Contamination ● Contaminated Liquid Removal
Objective	End Point	
Facilitate D & D	✓	Isolate the following to mitigate contamination migration: <ul style="list-style-type: none"> <li style="width: 33%;">● PE-4 <li style="width: 33%;">● PE-5 <li style="width: 33%;">● PE-6 <li style="width: 33%;">● PE-7 <li style="width: 33%;">● PE-8 <li style="width: 33%;">● PE-9 <li style="width: 33%;">● PE-13 <li style="width: 33%;">● PE-14 <li style="width: 33%;">● PE-15 <li style="width: 33%;">● PE-16 <li style="width: 33%;">● PE-17 <li style="width: 33%;">● PE-18 <li style="width: 33%;">● PE-19 <li style="width: 33%;">● PE-20 <li style="width: 33%;">● T-A1 <li style="width: 33%;">● EA-2

*

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
272-U COLD SHOP
CASE 1

WHC-SD-WM-TPP-052
 Rev. 0

Task Area (TA-1): Hazards		
Examples		
<ul style="list-style-type: none"> ● Criticality ● Fire hazard ● Structural Integrity 		<ul style="list-style-type: none"> ● Dangerous Materials ● Confined Spaces ● Electrical Circuits/Equipment
Objective	End Point	
Facilitate S & M <ul style="list-style-type: none"> ● Protect Workers ● Reduce Cost 	*	Seal sliding door.

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● Dangerous Waste (including permits) ● Low Level Waste ● Mixed Waste 		<ul style="list-style-type: none"> ● TRU Waste ● TRU Mixed Waste ● High Level TRU Mixed Waste ● Non-Regulated Waste
Objective	End Point	
Comply with Regulations & Requirements	*	Remove batteries from Fire Protection building fire zone indication panels.

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
272-U COLD SHOP
CASE 1

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● Sealing of Spaces ● Exterior Penetrations (animals, weather, etc.) 		<ul style="list-style-type: none"> ● Isolate Piping ● Security Systems
Objective	End Point	
Protect Public & Environment	*	Isolate (plug) floor drains. ⁻¹

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

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CASE 2
FUNCTIONAL
MATRIX
(Level I)

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UO₃ Functional End Point Matrix

Case 2 : Internal Spaces, No Access Expected

TASK AREAS	END POINT OBJECTIVES				
	PROTECT PUBLIC & ENVIRONMENT	FACILITATE S&M •PROTECT WORKERS •REDUCE COST	FACILITATE D&D	COMPLY WITH REGULATIONS & REQUIREMENTS	MEET COMMITMENTS TO STAKEHOLDERS
1 HAZARDS - NUCLEAR AND NON-NUCLEAR - ELIMINATE OR REDUCE	* Lower residual threat of criticality, fire, explosion, etc.		✓ Resolve serious threats now (not left for D&D)	A Fire protection, asbestos	A
2 RADIATION FIELDS - REDUCE, SHIELD OR ISOLATE			✓ Reasonable best effort	A Postings	
3 CONTAMINATION - REDUCE OR MITIGATE - PREVENT FUTURE SPREAD					
4 WASTE - REMOVE AND DISPOSE - PERMIT				* Legal limits	
5 ISOLATE & CONTAIN	* Seal exterior envelope	* Provisions in place to prevent: • Unintentional/ Unauthorized access • Cross contamination with accessible areas			
6 MONITOR & CONTROL - PROVIDE CAPABILITY	* Provisions in place to ensure against unmonitored releases to the environment	* Monitoring & Control capability in place such that entry is not likely			
7 REFURBISH OR INSTALL - REQUIRED S&M CAPABILITIES					
8 DOCUMENT & LABEL - EQUIPMENT - FACILITIES			* Document and label appropriately to plan & execute D&D	A Document and map	

Shaded areas are not applicable

*
Primary Consideration
Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
Check requirements, act accordingly.

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CASE 2
SPACES

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<i>UO₃ Case 2 Spaces</i>
<i>Internal Spaces, No Access Expected</i>
224-U Old Load out room
224-U Second floor Alcoves
224-U Penthouse
224-U C-Cell pit
224-U Legacy equipment <ul style="list-style-type: none">● E cell● Powder handling tower
Waste shed
2715-U
MO-321 Change Trailer
2716-U
207-U Sample Shack
2715-UA
UNH Truck Pad Shack
272-U Hot-shop

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CASE 2
COMMON
CRITERIA
(Level II)

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UO₃ COMMON END POINT CRITERIA

Internal Spaces, No Access Expected

Case 2

Task Area (TA-1): Hazards		
Examples		
<ul style="list-style-type: none"> ● Criticality ● Fire hazard ● Structural Integrity 		<ul style="list-style-type: none"> ● Dangerous Materials ● Confined Spaces ● Electrical Circuits/Equipment
Objective	End Point	
Protect Public & Environment	*	Remove unattached combustible materials to reduce the fire hazard.
Facilitate S&M <ul style="list-style-type: none"> ● Protect Workers ● Reduce Cost 	*	Criticality is impossible, UO ₃ is an exempt facility. Ref EPTI #5, ECN #102620 of WHC-SD-CP-SAR-002, <u>UO₃ Plant Safety Analysis Report Rev 5</u> . UO ₃ is a Low Hazard Facility. Ref EPTI #6, EDT #123025 WHC-SD-CP-HC-002, <u>UO₃ Facility Hazard Classification Rev-0</u> . Electrically de-energize equipment and deactivate instrumentation unless otherwise stated.
Facilitate D&D	✓	Resolve serious threats now. This objective is addressed (if applicable) in the specific Space/System Matrix (Level 3).
Comply with Regulations & Requirements	A	Fire protection/detection will be determined in the FHA. Meet the requirements of the "Hazardous Communication Program" as defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u> , Section 2.1, Rev.0 (Ref EPTI #1). Identify remaining asbestos as part of the "Asbestos Control Program" as defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u> , Section 2.3, Rev.0 (Ref EPTI #2). Identify and post confined spaces in accordance with WHC-CM-4-40, <u>Industrial Hygiene Manual</u> , Section 3.1, Rev.1 (Ref EPTI #3).
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Internal Spaces, No Access Expected

Case 2

Task Area (TA-2): Radiation Fields		
Examples		
<ul style="list-style-type: none"> ● <u>Radiation Levels</u> <ul style="list-style-type: none"> - general area - hot spots 		<ul style="list-style-type: none"> ● <u>Temporary Rad Zones</u> ● <u>Fixed Contamination (Rad)</u>
Objective	End Point	
Facilitate D&D	✓	Remove source material to mitigate radiation exposure using the "Reasonable Best Effort" methodology.
Comply with Regulations & Requirements	A	Remove temporary radiological zones. Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual (HSRCM-1)</u> , Chapter 2, Rev 2, (Ref EPTI #4).
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Internal Spaces, No Access Expected

Case 2

Task Area (TA-3): Contamination		
Examples		
●Beta/Gamma Non-fixed Contamination		●Alpha Non-fixed Contamination
		●Contaminated Liquid Removal
Objective	End Point	
Facilitate D&D	✓	Remove source material to mitigate contamination migration using the "Reasonable Best Effort" methodology.
Comply with Regulations & Requirements	A	Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual (HSRCM-1)</u> , Chapter 2, Rev 2 (Ref EPTI #4).
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Internal Spaces, No Access Expected

Case 2

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● Dangerous Waste (including permits) ● Low Level Waste ● Mixed Waste 		<ul style="list-style-type: none"> ● TRU Waste ● TRU Mixed Waste ● High Level TRU Mixed Waste ● Non-Regulated Waste
Objective	End Point	
Facilitate D&D	✓	Remove non-regulated waste using the "Reasonable Best Effort" methodology.
Comply with Regulations & Requirements	*	Remove/dispose dangerous and mixed waste in accordance with State and Federal Regulations. Remove and handle emergency lantern batteries in accordance with WHC-EP-0063-4, <u>Hanford Solid Waste Acceptance Criteria</u> (Ref EPTI #12) and 49 CFR.
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Internal Spaces, No Access Expected

Case 2

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● Sealing of Spaces ● Exterior Penetrations (animals, weather, etc.) 		<ul style="list-style-type: none"> ● Isolate Piping ● Security Systems
Objective	End Point	
Protect Public & Environment	*	Ensure engineered barriers/seals for penetrations (drains/piping/ventilation) to isolate source material and mitigate contamination migration to the environment.
Facilitate S&M <ul style="list-style-type: none"> ● Protect Workers ● Reduce Cost 	*	Place postings at entrances to prevent unintentional/unauthorized access. Ensure engineered barriers/seals for penetrations (drains/piping/ventilation) to isolate source material and mitigate contamination migration to Case 1 spaces.
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Internal Spaces, No Access Expected

Case 2

Task Area (TA-6): Monitor & Control		
Examples		
<ul style="list-style-type: none"> ● Radiological Monitors ● Air Sampling Capability ● Sump Level Indication 		<ul style="list-style-type: none"> ● Electrical Distribution and Control ● HVAC Monitoring and Control
Objective	End Point	
Protect Public & Environment	*	Internal facility radiological monitors and air sampling capabilities are not required as defined in WHC-SD-SQA-TA-20005, <u>Technical Assessment of Compliance with Work Place Air Sampling Requirements at the UO₃ Facility</u> , Rev 1, (Ref EPTI #7). Deactivate sump monitoring since sources, water, and steam will be isolated from the facility.
Facilitate S&M <ul style="list-style-type: none"> ● Protect Workers ● Reduce Cost 	*	Supply lighting electrical supply drawings as part of the turnover package.
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

WHC-SD-WM-TPP-052
Rev. 0

Internal Spaces, No Access Expected

Case 2

Task Area (TA-7): Refurbish or Install		
Examples		
<ul style="list-style-type: none"> ● S&M Requirements/Procedures ● Operational Equipment - Refurbished/Tested 		<ul style="list-style-type: none"> ● Spare Parts
Objective	End Point	
<p>Meet Commitments to Stakeholders</p>	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Internal Spaces, No Access Expected

Case 2

Task Area (TA-8): Document & Label		
Examples		
<ul style="list-style-type: none"> ● Proper Postings (rad area, asbestos, etc.) ● Label Operational ● Equipment/Instrumentation 		<ul style="list-style-type: none"> ● <u>Documentation:</u> Radiological Conditions Equipment/System Configuration
Objective	End Point	
Facilitate D&D	*	<p>Provide current plant engineering and administrative documentation to include deactivation work plans, certified vendor information (CVI), special nuclear material (SNM) inventory, final radiological surveys and maps, S&M procedures, checklists, and essential cell arrangement & lighting electrical distribution drawings.</p> <p>Store remaining classified documents at records holding.</p>
Comply with Regulations & Requirements	A	<p>Document space dose rates and contamination levels in the final radiological survey report and map per <u>Hanford Site Radiological Control Manual (HSRCM-1)</u>, Chapter 5, Rev 2 (Ref EPTI #9).</p> <p>Implement Configuration Management per WHC-SD-HT-RPT-001, <u>WHC Uniform Configuration Management Approach for Deactivation of Transition Projects</u>, Rev.0 (Ref. EPTI #8).</p>
Meet Commitments to Stakeholders	A	None.

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

CASE 2
SPECIFIC
CRITERIA
(Level III)

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UO₃ SPECIFIC END POINT CRITERIA
OLD LOADOUT ROOM
CASE 2

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> 	<ul style="list-style-type: none"> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i> 	
Objective	End Point	
Comply with Regulations & Requirements	*	Remove scale calibration weights.

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 	<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i> 	
Objective	End Point	
Protect Public & Environment	*	Seal roll up door leading to the environment to prevent contamination migration.

*

Primary Consideration
 Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
224-U SECOND FLOOR ALCOVES
CASE 2

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> 		<ul style="list-style-type: none"> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i>
Objective	End Point	
Comply with Regulations & Requirements	*	Remove emergency batteries from E-Cells alcove.

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 		<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i>
Objective	End Point	
Protect Public & Environment	*	Seal alcove doors leading into the canyon.

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
LEGACY EQUIPMENT - E-CELL & POWDER HANDLING TOWER
CASE 2

WHC-SD-WM-TPP-05
Rev. 0

Task Area (TA-1): Hazards														
Examples														
<ul style="list-style-type: none"> ● <i>Criticality</i> ● <i>Fire hazard</i> ● <i>Structural Integrity</i> 		<ul style="list-style-type: none"> ● <i>Dangerous Materials</i> ● <i>Confined Spaces</i> ● <i>Electrical Circuits/Equipment</i> 												
Objective	End Point													
<ul style="list-style-type: none"> <i>Facilitate S & M</i> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	Quantify remaining material in the following: <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">● PE-1</td> <td style="width: 33%;">● PE-2</td> <td style="width: 33%;">● PE-3</td> </tr> <tr> <td>● PE-10</td> <td>● PE-11</td> <td>● PE-12</td> </tr> <tr> <td>● X-11-1</td> <td>● X-11-2</td> <td>● X-3</td> </tr> <tr> <td>● X-12</td> <td>● X-5</td> <td>● X-7</td> </tr> </table>	● PE-1	● PE-2	● PE-3	● PE-10	● PE-11	● PE-12	● X-11-1	● X-11-2	● X-3	● X-12	● X-5	● X-7
● PE-1	● PE-2	● PE-3												
● PE-10	● PE-11	● PE-12												
● X-11-1	● X-11-2	● X-3												
● X-12	● X-5	● X-7												

Task Area (TA-3): Contamination														
Examples														
<ul style="list-style-type: none"> ● <i>Beta/Gamma Non-fixed Contamination</i> 		<ul style="list-style-type: none"> ● <i>Alpha Non-fixed Contamination</i> ● <i>Contaminated Liquid Removal</i> 												
Objective	End Point													
<ul style="list-style-type: none"> <i>Facilitate D & D</i> 	✓	Isolate the following to mitigate contamination migration: <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">● PE-1</td> <td style="width: 33%;">● PE-2</td> <td style="width: 33%;">● PE-3</td> </tr> <tr> <td>● PE-10</td> <td>● PE-11</td> <td>● PE-12</td> </tr> <tr> <td>● X-11-1</td> <td>● X-11-2</td> <td>● X-3</td> </tr> <tr> <td>● X-12</td> <td>● X-5</td> <td>● X-7</td> </tr> </table>	● PE-1	● PE-2	● PE-3	● PE-10	● PE-11	● PE-12	● X-11-1	● X-11-2	● X-3	● X-12	● X-5	● X-7
● PE-1	● PE-2	● PE-3												
● PE-10	● PE-11	● PE-12												
● X-11-1	● X-11-2	● X-3												
● X-12	● X-5	● X-7												

*

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA

WHC-SD-WM-TPP-05;
Rev. 0

2715-U

Case 2

<i>Task Area (TA-3): Contamination</i>		
<i>Examples</i>		
● <i>Beta/Gamma Non-fixed Contamination</i>		● <i>Alpha Non-fixed Contamination</i>
		● <i>Contaminated Liquid Removal</i>
<i>Objective</i>	<i>End Point</i>	
<i>Facilitate D & D</i>	✓	Decontaminate low level removable contamination (CA to a RBA). This will significantly reduce the future surveillance requirements.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

**UO₃ SPECIFIC END POINT CRITERIA
2716-U FIRE PROTECTION SHED**

WHC-SD-WM-TPP-05
Rev. 0

CASE 2

Task Area (TA-1): Hazards		
Examples		
<ul style="list-style-type: none"> ● <i>Criticality</i> ● <i>Fire hazard</i> ● <i>Structural Integrity</i> 		<ul style="list-style-type: none"> ● <i>Dangerous Materials</i> ● <i>Confined Spaces</i> ● <i>Electrical Circuits/Equipment</i>
Objective	End Point	
<ul style="list-style-type: none"> <i>Facilitate S & M</i> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	Excess available equipment to facilities with a use for it. Drain fire protection lines.

*
Primary Consideration
Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
272-U HOT SHOP
CASE 2

WHC-SD-WM-TPP-052
 Rev. 0

Task Area (TA-5): Isolate & Contain	
Examples	
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 	<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i>
Objective	End Point
Protect Public & Environment	<p style="text-align: center;">*</p> <p>Seal wall penetrations for gas welding lines.</p> <p>Seal sliding and pedestrian doors.</p>

*

Primary Consideration
 Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
 Check requirements, act accordingly.

CASE 3
FUNCTIONAL
MATRIX
(Level I)

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UO₃ Functional End Point Matrix

Case 3 : External Spaces, Including Building Exterior Envelopes

TASK AREAS	END POINT OBJECTIVES				
	PROTECT PUBLIC & ENVIRONMENT	FACILITATE S&M •PROTECT WORKERS •REDUCE COST	FACILITATE D&D	COMPLY WITH REGULATIONS & REQUIREMENTS	MEET COMMITMENTS TO STAKEHOLDERS
1 HAZARDS - NUCLEAR AND NON-NUCLEAR - ELIMINATE OR REDUCE	* Lower residual threat of criticality, fire, explosion, etc.		✓ Resolve serious threats now (not left for D&D)	A Fire protection, asbestos	A
2 RADIATION FIELDS - REDUCE, SHIELD OR ISOLATE		* Reduce to support S&M			
3 CONTAMINATION - REDUCE OR MITIGATE - PREVENT FUTURE SPREAD	* Provisions to inhibit contamination migration	* Provisions in place to prevent: • Unintentional/Unauthorized access, cross contamination with accessible areas	✓ Reasonable best effort	A Postings	
4 WASTE - REMOVE AND DISPOSE - PERMIT				* Legal limits	
5 ISOLATE & CONTAIN	* Provisions in place to prevent: • Unintentional/Unauthorized access, cross contamination with accessible areas	* Building roofs sound		A	
6 MONITOR & CONTROL - PROVIDE CAPABILITY	* Environmental monitoring capability in place, including: • Alarms, cameras, etc.			* Necessary surveys, alarms, controls...	
7 REFURBISH OR INSTALL - REQUIRED S&M CAPABILITIES		* • Structural repair, refurbishment as needed for S&M worker safety • Access provisions in place			
8 DOCUMENT & LABEL - EQUIPMENT - FACILITIES		* Document (including procedures) and label equipment to support safe entry	* Document and label appropriately to plan & execute D&D	A Document and map	

Shaded areas are not applicable

*
Primary Consideration
Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
Check requirements, act accordingly.

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CASE 3
SPACES

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<i>UO₃ Case 3 Spaces</i>
<i>External Spaces, Including Building Exterior Envelopes</i>
203-U Diked area
211-UA
Yard
Wooden Towers
UNH Truck Pad
Back Pad/203-UX
Facility Roofs

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CASE 3
COMMON
CRITERIA
(Level II)

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UO₃ COMMON END POINT CRITERIA
External Spaces, Including Building Exterior Envelopes
 Case 3

Task Area (TA-I): Hazards		
Examples		
<ul style="list-style-type: none"> ● <i>Criticality</i> ● <i>Fire hazard</i> ● <i>Structural Integrity</i> 		<ul style="list-style-type: none"> ● <i>Dangerous Materials</i> ● <i>Confined Spaces</i> ● <i>Electrical Circuits/Equipment</i>
Objective	End Point	
Protect Public & Environment	*	Remove unattached combustible materials to reduce the fire hazard.
Facilitate S&M ● Protect Workers ● Reduce Cost	*	Criticality is impossible, UO ₃ is an exempt facility. Ref EPTI #5, ECN #102620 of WHC-SD-CP-SAR-002, <u>UO₃ Plant Safety Analysis Report Rev 5</u> . UO ₃ is a Low Hazard Facility. Ref EPTI #6, EDT #123025 WHC-SD-CP-HC-002, <u>UO₃ Facility Hazard Classification Rev-0</u> . Electrically de-energize equipment and deactivate instrumentation unless otherwise stated. Leave remaining dangerous materials in a state where they pose no threat to the environment or human health. A limited structural analysis will be conducted to verify the buildings structural integrity for a minimum of five (5) years.
Facilitate D&D	✓	Resolve serious threats now. This objective is addressed (if applicable) in the specific Space/System Matrix.
Comply with Regulations & Requirements	A	Fire protection/detection will be determined in the FHA. Meet the requirements of the "Hazardous Communication Program" as defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u> , Section 2.1, Rev.0 (Ref EPTI #1). Identify remaining asbestos as part of the "Asbestos Control Program" as defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u> , Section 2.3, Rev.0 (Ref EPTI #2). Identify and post confined spaces in accordance with WHC-CM-4-40, <u>Industrial Hygiene Manual</u> , Section 3.1, Rev.1 (Ref EPTI #3).

*

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
External Spaces, Including Building Exterior Envelopes
 Case 3

Task Area (TA-1): Hazards		
Examples		
<ul style="list-style-type: none"> ● <i>Criticality</i> ● <i>Fire hazard</i> ● <i>Structural Integrity</i> 	<ul style="list-style-type: none"> ● <i>Dangerous Materials</i> ● <i>Confined Spaces</i> ● <i>Electrical Circuits/Equipment</i> 	
Objective	End Point	
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
External Spaces, Including Building Exterior Envelopes
 Case 3

Task Area (TA-2): Radiation Fields		
Examples		
<ul style="list-style-type: none"> ● <u>Radiation Levels</u> - general area - hot spots 		<ul style="list-style-type: none"> ● <u>Temporary Rad Zones</u> ● <u>Fixed Contamination (Rad)</u>
Objective	End Point	
<ul style="list-style-type: none"> ● <i>Facilitate S&M</i> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	Maximum general dose rates will not exceed a "Radiological Buffer Area" as defined in <u>Hanford Site Radiological Control Manual (HSRCM-1)</u> , Chapter 2, Rev 2, Table 2-4 (Ref EPTI #4). There are no "Hot Spots" at the UO ₃ facility as defined in <u>Hanford Site Radiological Control Manual (HSRCM-1)</u> , Chapter 2, Rev 2, Table 2-4 (Ref EPTI #4).
<i>Facilitate D&D</i>	✓	Remove source material to mitigate radiation exposure using the "Reasonable Best Effort" methodology.
<i>Comply with Regulations & Requirements</i>	A	Remove temporary radiological zones. Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual (HSRCM-1)</u> , Chapter 2, Rev 2, (Ref EPTI #4).
<i>Meet Commitments to Stakeholders</i>	A	None.

*

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
External Spaces, Including Building Exterior Envelopes
 Case 3

Task Area (TA-3): Contamination		
Examples		
<ul style="list-style-type: none"> ● <i>Beta/Gamma Non-fixed Contamination</i> ● <i>Alpha Non-fixed Contamination</i> ● <i>Contaminated Liquid Removal</i> 		
Objective	End Point	
Protect Public & Environment	*	Remove source material using the "Reasonable Best Effort" methodology. Include survey requirements as part of the turnover package to ensure containment of outside Contamination Area (CA).
Facilitate S&M ● <i>Protect Workers</i> ● <i>Reduce Cost</i>	*	Reduce maximum removable contamination levels in the surveillance corridor (within current CA) to a "Contamination Area" as defined in <u>Hanford Site Radiological Control Manual</u> (HSRCM-1), Chapter 2, Rev 2, Table 2-5 (Ref EPTI #4). However, removable contamination levels outside the surveillance corridor may exceed a "Contamination Area".
Facilitate D&D	✓	Remove source material to mitigate contamination migration using the "Reasonable Best Effort" methodology.
Comply with Regulations & Requirements	A	Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual</u> (HSRCM-1), Chapter 2, Rev 2 (Ref EPTI #4).
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
External Spaces, Including Building Exterior Envelopes
 Case 3

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> 	<ul style="list-style-type: none"> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i> 	
Objective	End Point	
<i>Facilitate D&D</i>	✓	Remove non-regulated waste using the "Reasonable Best Effort" methodology.
<i>Comply with Regulations & Requirements</i>	*	Remove/dispose dangerous and mixed waste in accordance with State and Federal Regulations.
<i>Meet Commitments to Stakeholders</i>	A	None.

*

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
External Spaces, Including Building Exterior Envelopes
 Case 3

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> ● <i>Isolate Piping</i> ● <i>Security Systems</i> 		
Objective	End Point	
Protect Public & Environment	*	Ensure engineered barriers/seals for penetrations/drains/piping/ventilation leading to the environment are in place. Post space to prevent unintentional/unauthorized access.
Facilitate S&M ● Protect Workers ● Reduce Cost	*	Assess facility roofs for structural integrity and prevention of in-leakage or rodent access for a minimum of five (5) years. Include roof studies in the turnover package. Leave remaining dangerous materials in a state where they pose no threat to the environment or human health.
Comply with Regulations & Requirements	A	Ensure engineered barriers/seals for flanges/drains/piping leading to the surrounding space are in place.
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
External Spaces, Including Building Exterior Envelopes
 Case 3

Task Area (TA-6): Monitor & Control		
Examples		
<ul style="list-style-type: none"> ● Radiological Monitors ● Air Sampling Capability ● Sump Level Indication 	<ul style="list-style-type: none"> ● Electrical Distribution and Control ● HVAC Monitoring and Control 	
Objective	End Point	
Protect Public & Environment	*	Isolate effluent discharges to U-17 Crib and U-14 Ditch.
Comply with Regulations & Requirements	*	The environmental monitoring program (UO ₃ area dog houses) will continue to comply with defined guidance and requirements as listed in EPTI #10.
Meet Commitments to Stakeholders	A	None.

Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
External Spaces, Including Building Exterior Envelopes
 Case 3

Task Area (TA-7): Refurbish or Install		
Examples		
<ul style="list-style-type: none"> ● S&M Requirements/Procedures ● Spare Parts ● Operational Equipment Refurbished/Tested 		
Objective	End Point	
<p style="text-align: center;"><i>Facilitate S&M</i></p> <ul style="list-style-type: none"> ● Protect Workers ● Reduce Cost 	*	<p>Update the Building Emergency Plan to reflect the facility's status.</p> <p>Assess facility roofs for structural integrity and prevention of in-leakage or rodent access for a minimum of five (5) years. Include roof studies in the turnover package.</p> <p>Post facility access points and install physical barrier (if none exist) to prevent unintentional/unauthorized access.</p>
<p style="text-align: center;"><i>Meet Commitments to Stakeholders</i></p>	A	None.

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA
External Spaces, Including Building Exterior Envelopes
 Case 3

Task Area (TA-8): Document & Label		
Examples		
<ul style="list-style-type: none"> ● <i>Proper Postings (radiological area, asbestos, etc.)</i> ● <i>Label Operational Equipment/Instrumentation</i> ● <u>Documentation:</u> <i>Radiological Conditions</i> <i>Equipment/System Configuration</i> 		
Objective	End Point	
Facilitate S&M ● Protect Workers ● Reduce Cost	*	Document remaining hazards (operating equipment, asbestos, etc.)
Facilitate D&D	*	Provide current plant engineering and administrative documentation to include deactivation work plans, certified vendor information (CVI), special nuclear material (SNM) inventory, final radiological surveys and maps, S&M procedures, checklists, and essential cell arrangement & lighting electrical distribution drawings. Store remaining classified documents at records holding.
Comply with Regulations & Requirements	A	Document space dose rates and contamination levels in the final radiological survey report and map per <u>Hanford Site Radiological Control Manual (HSRCM-1), Chapter 5, Rev 2 (Ref EPTI #9).</u> Implement Configuration Management per WHC-SD-HT-RPT-001, <u>WHC Uniform Configuration Management Approach for Deactivation of Transition Projects, Rev.0 (Ref. EPTI #8).</u>
Meet Commitments to Stakeholders	A	None.

Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

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CASE 3
SPECIFIC
CRITERIA
(Level III)

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UO₃ SPECIFIC END POINT CRITERIA
OUTSIDE YARD
CASE 3

Task Area (TA-3): Contamination	
Examples	
<ul style="list-style-type: none"> ● <i>Beta/Gamma Non-fixed Contamination</i> 	<ul style="list-style-type: none"> ● <i>Alpha Non-fixed Contamination</i> ● <i>Contaminated Liquid Removal</i>
Objective	End Point
Protect Public & Environment	<ul style="list-style-type: none"> Repair/repaint concrete pad in front of 224-UA loadout room. Repair/repaint concrete pad in front of 224-U loadout room. Relocate empty T-Hoppers from yard to 2714-U. Contain contaminated dirt area (behind 2715-UA) from wind dispersion.

*

Primary Consideration
 Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
 Check requirements, act accordingly.

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CASE 4
FUNCTIONAL
MATRIX
(Level I)

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UO₃ Functional End Point Matrix

Case 4 : System - Operational

TASK AREAS	END POINT OBJECTIVES				
	PROTECT PUBLIC & ENVIRONMENT	FACILITATE S&M •PROTECT WORKERS •REDUCE COST	FACILITATE D&D	COMPLY WITH REGULATIONS & REQUIREMENTS	MEET COMMITMENTS TO STAKEHOLDERS
1 HAZARDS - NUCLEAR AND NON-NUCLEAR - ELIMINATE OR REDUCE	* System configured such that operation does not pose a threat to workers, public or environment			A Fire protection, asbestos	A
2 RADIATION FIELDS - REDUCE, SHIELD OR ISOLATE		* Reduce radiation levels to facilitate system operation & maintenance (flush, shield...)		A Postings	
3 CONTAMINATION - REDUCE OR MITIGATE - PREVENT FUTURE SPREAD		* Contamination reduced and controlled to facilitate system operation			
4 WASTE - REMOVE AND DISPOSE - PERMIT				* Legal limits	
5 ISOLATE & CONTAIN		* System well sealed from surroundings/environment			
6 MONITOR & CONTROL - PROVIDE CAPABILITY	* Control and monitor system interfaces with environment to prevent radioactive release	* Controls & instrumentation to support system operation		* Necessary alarms, controls...	
7 REFURBISH OR INSTALL - REQUIRED S&M CAPABILITIES	* Installation/ modification of equipment to prevent hazardous/dangerous material release	* Installation of new equipment to support S&M activities		A Document and map	
8 DOCUMENT & LABEL - EQUIPMENT - FACILITIES		* Document (including procedures) and label equipment to support S&M			

Shaded areas are not applicable

*
Primary Consideration
Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
Check requirements, act accordingly.

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CASE 4
SYSTEMS

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<i>UO₃ Case 4 Systems</i>
<i>Systems - Operational</i>
224-U Lighting
224-UA Lighting
Storm Water Collection (Back Pad Trench & 207-U Basin)

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CASE 4
COMMON
CRITERIA
(Level II)

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UO₃ COMMON END POINT CRITERIA

WHC-SD-WM-TPP-05
Rev. 0

System - Operational

Case 4

Task Area (TA-1): Hazards		
Examples		
<ul style="list-style-type: none"> ● Criticality ● Fire hazard ● Structural Integrity 		<ul style="list-style-type: none"> ● Dangerous Materials ● Confined Spaces ● Electrical Circuits/Equipment
Objective	End Point	
Protect Public & Environment	*	<p>Criticality is impossible, UO₃ is an exempt facility. Ref EPTI #5, ECN #102620 of WHC-SD-CP-SAR-002, <u>UO₃ Plant Safety Analysis Report</u> Rev 5.</p> <p>UO₃ is a Low Hazard Facility. Ref EPTI #6, EDT #123025 WHC-SD-CP-HC-002, <u>UO₃ Facility Hazard Classification</u> Rev-0.</p>
Facilitate S&M ● Protect Workers ● Reduce Cost	*	<p>Leave remaining dangerous materials in a state where they pose no threat to the environment or human health.</p> <p>Identify electrical supply in the turnover package.</p>
Comply with Regulations & Requirements	A	<p>Fire protection/detection will be determined in the FHA.</p> <p>Meet the requirements of the "Hazardous Communication Program" as defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 2.1, Rev.0 (Ref EPTI #1).</p> <p>Identify remaining asbestos as part of the "Asbestos Control Program" as defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 2.3, Rev.0 (Ref EPTI #2).</p> <p>Identify and post confined spaces in accordance with WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 3.1, Rev.1 (Ref EPTI #3).</p>
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

System - Operational

Case 4

Task Area (TA-2): Radiation Fields		
Examples		
<ul style="list-style-type: none"> ● <u>Radiation Levels</u> <ul style="list-style-type: none"> - general area - hot spots 		<ul style="list-style-type: none"> ● <u>Temporary Rad Zones</u> ● <u>Fixed Contamination (Rad)</u>
Objective	End Point	
Facilitate S&M ● Protect Workers ● Reduce Cost	*	Maximum general dose rate levels are defined in the Space where the system is located. Remove source material to mitigate radiation exposure using the "Reasonable Best Effort" methodology.
Comply with Regulations & Requirements	A	Remove temporary radiological zones. Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual</u> (HSRCM-1), Chapter 2, Rev 2. (Ref EPTI #4).
Meet Commitments to Stakeholders	A	None.

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

System - Operational

Case 4

Task Area (TA-3): Contamination		
Examples		
<ul style="list-style-type: none"> ● <i>Beta/Gamma Non-fixed Contamination</i> 		<ul style="list-style-type: none"> ● <i>Alpha Non-fixed Contamination</i> ● <i>Contaminated Liquid Removal</i>
Objective	End Point	
<ul style="list-style-type: none"> <i>Facilitate S&M</i> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	Remove source material to mitigate contamination migration using the "Reasonable Best Effort" methodology. Maximum removable contamination levels are defined in the Space where the system is located.
<ul style="list-style-type: none"> <i>Comply with Regulations & Requirements</i> 	A	Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual (HSRCM-1)</u> , Chapter 2, Rev 2, (Ref EPTI #4).
<ul style="list-style-type: none"> <i>Meet Commitments to Stakeholders</i> 	A	None.

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

System - Operational

Case 4

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i> 		
Objective	End Point	
Comply with Regulations & Requirements	*	Not applicable. The only remaining operational systems are the lighting and storm water collection.
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

WHC-SD-WM-TPP-05:
Rev. 0

System - Operational

Case 4

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● Sealing of Spaces ● Exterior Penetration (animals, weather, etc.) 		<ul style="list-style-type: none"> ● Isolate Piping ● Security Systems
Objective	End Point	
<ul style="list-style-type: none"> Facilitate S&M ● Protect Workers ● Reduce Cost 	*	Ensure engineered barriers/seals for flanges/drains/piping leading to the surrounding space are in place.
<ul style="list-style-type: none"> Meet Commitments to Stakeholders 	A	None.

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

System - Operational

Case 4

Task Area (TA-6): Monitor & Control		
Examples		
<ul style="list-style-type: none"> ● Radiological Monitors ● Air Sampling Capability ● Sump Level Indication 		<ul style="list-style-type: none"> ● Electrical Distribution and Control ● HVAC Monitoring and Control
Objective	End Point	
Protect Public & Environment	*	Deactivate sump monitoring since sources, water, and steam will be isolated from the facility.
Facilitate S&M ● Protect Workers ● Reduce Cost	*	Provide lighting capabilities to facilitate S&M.
Comply with Regulations & Requirements	*	The environmental monitoring program (UO ₃ area dog houses) will continue to comply with defined guidance and requirements as listed in EPTI #10. Define system calibration/monitoring requirements in turnover package. System discharge monitoring (if applicable) defined under the specific system requirements (Level 3).
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

System - Operational

Case 4

Task Area (TA-7): Refurbish or Install		
Examples		
<ul style="list-style-type: none"> ● S&M Requirements/Procedures ● Operational Equipment Refurbished/Tested ● Spare Parts 		
Objective	End Point	
Protect Public & Environment	*	Route storm water from backside Contamination Area (CA) to the 207-U basin (currently a CA) for evaporation. (Ref EPTI #11)
Facilitate S&M ● Protect Workers ● Reduce Cost	*	A new power supply will be used for the 224-UA lighting to allow deactivation of existing equipment/systems.
Comply with Regulations & Requirements	A	Newly installed electrical distribution will be in accordance with NEC requirements. Reroute storm water in accordance with state and federal regulations or concurrence of environmental agencies.
Meet Commitments to Stakeholders	A	None.

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

System - Operational

Case 4

Task Area (TA-8): Document & Label		
Examples		
<ul style="list-style-type: none"> ● Proper Postings (rad area, asbestos, etc.) ● Label Operational ● Equipment/Instrumentation 		<ul style="list-style-type: none"> ● <u>Documentation:</u> Radiological Conditions Equipment/System Configuration
Objective	End Point	
Facilitate S&M <ul style="list-style-type: none"> ● Protect Workers ● Reduce Cost 	*	Post operational system. Provide current plant engineering and administrative documentation to include deactivation work plans, certified vendor information (CVI), special nuclear material (SNM) inventory, final radiological surveys and maps, S&M procedures, checklists, and essential cell arrangement & lighting electrical distribution drawings.
Comply with Regulations & Requirements	A	Document contamination levels in the final radiological survey report and map per <u>Hanford Site Radiological Control Manual (HSRCM-1)</u> , Chapter 5, Rev 2 (Ref EPTI #9). Implement Configuration Management per WHC-SD-HT-RPT-001, <u>WHC Uniform Configuration Management Approach for Deactivation of Transition Projects</u> , Rev.0 (Ref. EPTI #8).
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

CASE 5
FUNCTIONAL
MATRIX
(Level I)

UO₃ Functional End Point Matrix

Case 5 : System - Mothballed

TASK AREAS	END POINT OBJECTIVES				
	PROTECT PUBLIC & ENVIRONMENT	FACILITATE S&M • PROTECT WORKERS • REDUCE COST	FACILITATE D&D	COMPLY WITH REGULATIONS & REQUIREMENTS	MEET COMMITMENTS TO STAKEHOLDERS
1 HAZARDS - NUCLEAR AND NON-NUCLEAR - ELIMINATE OR REDUCE			* Place system in a stagnant state with exposed elements covered with preservative	A Fire protection, asbestos	A
2 RADIATION FIELDS - REDUCE, SHIELD OR ISOLATE		* Radiation levels low enough to permit S&M		A Postings	
3 CONTAMINATION - REDUCE OR MITIGATE - PREVENT FUTURE SPREAD		* Reduce and/or control contamination levels			
4 WASTE - REMOVE AND DISPOSE - PERMIT				* Legal limits	
5 ISOLATE & CONTAIN	* Provisions in place to ensure against unmonitored releases to the environment		* Preserve, seal from surroundings		
6 MONITOR & CONTROL - PROVIDE CAPABILITY					
7 REFURBISH OR INSTALL - REQUIRED S&M CAPABILITIES			* Protect from Further Degradation to Permit Refurbishment Later		
8 DOCUMENT & LABEL - EQUIPMENT - FACILITIES			* Preserve Information on System Condition, Operating Manual, Maintenance, Etc.	A Document and map	

Shaded areas are not applicable

*
Primary Consideration
Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
Check requirements, act accordingly.

CASE 5
SYSTEMS

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<i>UO₃ Case 5 Systems</i>
<i>Systems, Mothballed</i>
224-U Elevator

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CASE 5
COMMON
CRITERIA
(Level II)

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UO₃ COMMON END POINT CRITERIA

WHC-SD-WM-TPP-05:
Rev. 0

Systems - Mothballed

Case 5

Task Area (TA-1): Hazards		
Examples		
<ul style="list-style-type: none"> ● <i>Criticality</i> ● <i>Fire hazard</i> ● <i>Structural Integrity</i> ● <i>Dangerous Materials</i> ● <i>Confined Spaces</i> ● <i>Electrical Circuits/Equipment</i> 		
Objective	End Point	
Facilitate D&D	*	<p>Criticality is impossible, UO₃ is an exempt facility. Ref EPTI #5, ECN #102620 of WHC-SD-CP-SAR-002, <u>UO₃ Plant Safety Analysis Report</u> Rev 5.</p> <p>UO₃ is a Low Hazard Facility. Ref EPTI #6, EDT #123025 WHC-SD-CP-HC-002, <u>UO₃ Facility Hazard Classification</u> Rev-0.</p> <p>Resolve serious threats now. This objective is addressed (if applicable) in the specific Space/System Matrix.</p> <p>Electrically de-energize equipment and deactivate instrumentation unless otherwise stated.</p> <p>Drain liquids from accessible equipment using "Good Management Practices".</p>
Comply with Regulations & Requirements	A	<p>Fire protection/detection will be determined in the FHA.</p> <p>Meet the requirements of the "Hazardous Communication Program" as defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 2.1, Rev.0 (Ref EPTI #1).</p> <p>Identify remaining asbestos as part of the "Asbestos Control Program" as defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 2.3, Rev.0 (Ref EPTI #2).</p> <p>Identify and post confined spaces in accordance with WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 3.1, Rev.1 (Ref EPTI #3).</p>
Meet Commitments to Stakeholders	A	None.

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Mothballed

Case 5

Task Area (TA-2): Radiation Fields		
Examples		
<ul style="list-style-type: none"> ● <u>Radiation Levels</u> <ul style="list-style-type: none"> - general area - hot spots 		<ul style="list-style-type: none"> ● <u>Temporary Rad Zones</u> ● <u>Fixed Contamination (Rad)</u>
Objective	End Point	
<ul style="list-style-type: none"> Facilitate S&M ● Protect Workers ● Reduce Cost 	*	<p>Maximum general dose rate levels are defined in the Space where the system is located.</p> <p>Remove source material to mitigate radiation exposure using the "Reasonable Best Effort" methodology.</p>
<ul style="list-style-type: none"> Comply with Regulations & Requirements 	A	<p>Remove temporary radiological zones.</p> <p>Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual (HSRCM-1)</u>, Chapter 2, Rev 2, (Ref EPTI #4).</p>
<ul style="list-style-type: none"> Meet Commitments to Stakeholders 	A	<p>None.</p>

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Mothballed Case 5

Task Area (TA-3): Contamination		
Examples		
<ul style="list-style-type: none"> ● <i>Beta/Gamma Non-fixed Contamination</i> ● <i>Alpha Non-fixed Contamination</i> ● <i>Contaminated Liquid Removal</i> 		
Objective	End Point	
<p>Facilitate S&M</p> <ul style="list-style-type: none"> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	<p>Maximum removable contamination levels are defined in the Space where the system is located.</p> <p>Remove source material to mitigate contamination migration using the "Reasonable Best Effort" methodology.</p>
<p>Comply with Regulations & Requirements</p>	A	<p>Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual</u> (HSRCM-1), Chapter 2, Rev 2. (Ref EPTI #4).</p>
<p>Meet Commitments to Stakeholders</p>	A	<p>None.</p>

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Mothballed

Case 5

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i> 		
Objective	End Point	
Comply with Regulations & Requirements	*	Not applicable. The only mothballed system is the elevator.
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

WHC-SD-WM-TPP-05
Rev. 0

Systems - Mothballed

Case 5

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● Sealing of Spaces ● Exterior Penetrations (animals, weather, etc.) ● Isolate Piping ● Security Systems 		
Objective	End Point	
Protect Public & Environment	*	Ensure engineered barriers/seals for penetrations/drains/piping/ventilation leading to the environment are in place.
Facilitate D&D	*	Ensure engineered barriers/seals for flanges/drains/piping leading to the surrounding space are in place.
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Mothballed

Case 5

<i>Task Area (TA-6): Monitor & Control</i>		
<i>Examples</i>		
<ul style="list-style-type: none"> ● <i>Radiological Monitors</i> ● <i>Air Sampling Capability</i> ● <i>Sump Level Indication</i> ● <i>Electrical Distribution and Control</i> ● <i>HVAC Monitoring and Control</i> 		
<i>Objective</i>	<i>End Point</i>	
<i>Meet Commitments to Stakeholders</i>	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Mothballed

Case 5

Task Area (TA-7): Refurbish or Install		
Examples		
<ul style="list-style-type: none"> ● S&M Requirements/Procedures ● Operational Equipment Refurbished/Tested 		<ul style="list-style-type: none"> ● Spare Parts
Objective	End Point	
<i>Facilitate D&D</i>	*	Install protective barriers to inhibit further equipment degradation permitting refurbishment by D&D.
<i>Meet Commitments to Stakeholders</i>	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Mothballed

Case 5

Task Area (TA-8): Document & Label		
Examples		
<ul style="list-style-type: none"> ● Proper Postings (rad area, asbestos, etc.) ● Label Operational ● Equipment/Instrumentation 		<ul style="list-style-type: none"> ● <u>Documentation:</u> Radiological Conditions Equipment/System Configuration
Objective	End Point	
Facilitate D&D	*	<p>Document system lay-up.</p> <p>Include system restart procedure as part of the turnover package.</p> <p>Label mothballed equipment.</p> <p>Provide current plant engineering and administrative documentation to include deactivation work plans, certified vendor information (CVI), special nuclear material (SNM) inventory, final radiological surveys and maps, S&M procedures, checklists, and essential cell arrangement & lighting electrical distribution drawings.</p>
Comply with Regulations & Requirements	A	<p>Document contamination levels in the final radiological survey report and map per <u>Hanford Site Radiological Control Manual (HSRCM-1)</u>, Chapter 5, Rev 2 (Ref EPTI #9).</p> <p>Implement Configuration Management per WHC-SD-HT-RPT-001, <u>WHC Uniform Configuration Management Approach for Deactivation of Transition Projects</u>, Rev.0 (Ref. EPTI #8).</p>
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

CASE 6
FUNCTIONAL
MATRIX
(Level I)

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UO₃ Functional End Point Matrix

WHC-SD-WM-TPP-01
Rev. 0

Case 6 : System - Abandoned in Place

TASK AREAS	END POINT OBJECTIVES				
	PROTECT PUBLIC & ENVIRONMENT	FACILITATE S&M • PROTECT WORKERS • REDUCE COST	FACILITATE D&D	COMPLY WITH REGULATIONS & REQUIREMENTS	MEET COMMITMENTS TO STAKEHOLDERS
1 HAZARDS - NUCLEAR AND NON-NUCLEAR - ELIMINATE OR REDUCE	* Configure system such that operation does not pose a threat to workers, public or environment			A Fire protection, asbestos	A
2 RADIATION FIELDS - REDUCE, SHIELD OR ISOLATE		* Reduce radiation levels to facilitate S&M activities		A Postings	
3 CONTAMINATION - REDUCE OR MITIGATE - PREVENT FUTURE SPREAD		* Reduce and/or control contamination levels to facilitate S&M			
4 WASTE - REMOVE AND DISPOSE - PERMIT				* Legal limits	
5 ISOLATE & CONTAIN	* Seal exterior envelope	* System well sealed from surroundings/environment			
6 MONITOR & CONTROL - PROVIDE CAPABILITY					
7 REFURBISH OR INSTALL - REQUIRED S&M CAPABILITIES					
8 DOCUMENT & LABEL - EQUIPMENT - FACILITIES		* Document (including procedures) and label equipment to support S&M	* Document and label appropriately to plan & execute D&D	A Document and map	

Shaded areas are not applicable

*
Primary Consideration
Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
Check requirements, act accordingly.

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CASE 6
SYSTEMS

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<i>UO₃ Case 6 Systems</i>		
<i>Systems, Abandoned in Place</i>		
224-U HVAC		
224-U Second floor Alcoves		
<ul style="list-style-type: none"> ● Tk-C8 Phosphoric Acid ● Tk-D-12 Sulfuric Acid ● Exhaust fan into E-Cell 		
224-U Lunchroom HVAC		
224-U U-4 Stack		
224-U A thru D Canyon cells		
- Vessels	- Piping	- Pumps
● EA-4	● Tk-C1	● Tk-D9
● TA-3	● Tk-C2	● Tk-D5
● ED-2	● Tk-C3	● Tk-D13
● ED-6	● Tk-C4	● Tk-D10
● ED-7	● Tk-C5	● Tk-D8
● DD-1	● Tk-C7	● Tk-C10
● Tk-D4	● Tk-C9	● C-2 Sealpot
● EB-3	● ED-3	● C-6 Cooler
224-U Legacy equipment		
- Vessels	- Piping	- Pumps
● PE-1	● PE-11	● X-11-1
● PE-2	● PE-12	● X-11-2
● PE-3	● PE-13	● X-3
● PE-4	● PE-14	● X-12
● PE-5	● PE-15	● X-5
● PE-6	● PE-16	● X-7
● PE-7	● PE-17	● T-A1
● PE-8	● PE-18	● EA-2
● PE-9	● PE-19	
● PE-10	● PE-20	

<i>UO₂ Case 6 Systems</i>	
<i>Systems, Abandoned in Place</i>	
224-UA Calcining	
224-UA Powder handling	
224-UA Fire	
224-UA HVAC	
203-U Caustic Truck pad	
203-U Equipment	
<ul style="list-style-type: none"> - Vessels - Piping - Pumps <ul style="list-style-type: none"> ● Tk-X-1 ● Tk-X-2 ● Tk-X-38 ● Tk-X-37 ● Tk-X-36 	
211-U 307 Pump pit	
211-U Recovered Nitric acid loading station	
211-U Equipment	
<ul style="list-style-type: none"> - Vessels - Piping - Pumps <ul style="list-style-type: none"> ● Tk-X-301 ● Tk-X-302 ● Tk-X-303 ● Tk-X-306 ● Tk-X-307 ● Tk-X-308 	
Back Pad/203-UX equipment	
<ul style="list-style-type: none"> - Vessels - Piping - Pumps <ul style="list-style-type: none"> ● Tank X-30 ● Loop Header ● Tank X-20 and associated pump and piping ● F1/F2 filter housings ● C2-F filter housing ● Decon Sink 	
UNH Truck Pad Piping	

<i>UO₃ Case 6 Systems</i>
<i>Systems, Abandoned in Place</i>
UNH Truck Pad Sump
Facility Water
Facility Steam
Facility Electrical
Facility Process Air
Facility Breathing Air
Facility Sewer
272-U HVAC
272-U Pump Pit

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CASE 6
COMMON
CRITERIA
(Level II)

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UO₃ COMMON END POINT CRITERIA

WHC-SD-WM-TPP-05:
Rev. 0

Systems - Abandoned in Place

Case 6

Task Area (TA-1): Hazards		
Examples		
<ul style="list-style-type: none"> ● Criticality ● Fire hazard ● Structural Integrity 		<ul style="list-style-type: none"> ● Dangerous Materials ● Confined Spaces ● Electrical Circuits/Equipment
Objective	End Point	
Protect Public & Environment	*	<p>Criticality is impossible, UO₃ is an exempt facility. Ref EPTI #5, ECN #102620 of WHC-SD-CP-SAR-002, <u>UO₃ Plant Safety Analysis Report Rev 5.</u></p> <p>UO₃ is a Low Hazard Facility. Ref EPTI #6, EDT #123025 WHC-SD-CP-HC-002, <u>UO₃ Facility Hazard Classification Rev-0.</u></p>
Facilitate S&M <ul style="list-style-type: none"> ● Protect Workers ● Reduce Cost 	*	<p>Electrically de-energize equipment and deactivate instrumentation unless otherwise stated.</p> <p>Leave remaining dangerous materials in a state where they pose no threat to the environment or human health.</p> <p>Drain liquids from accessible equipment using "Good Management Practices".</p>
Comply with Regulations & Requirements	A	<p>Fire protection/detection will be determined in the FHA.</p> <p>Meet the requirements of the "Hazardous Communication Program" as defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 2.1, Rev.0 (Ref EPTI #1).</p> <p>Identify remaining asbestos as part of the "Asbestos Control Program" as defined in WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 2.3, Rev.0 (Ref EPTI #2).</p> <p>Identify and post confined spaces in accordance with WHC-CM-4-40, <u>Industrial Hygiene Manual</u>, Section 3.1, Rev.1 (Ref EPTI #3).</p>
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Abandoned in Place

Case 6

Task Area (TA-2): Radiation Fields		
Examples		
<ul style="list-style-type: none"> ● <u>Radiation Levels</u> <ul style="list-style-type: none"> - general area - hot spots 		<ul style="list-style-type: none"> ● <u>Temporary Rad Zones</u> ● <u>Fixed Contamination (Rad)</u>
Objective	End Point	
<ul style="list-style-type: none"> <i>Facilitate S&M</i> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	<p>Maximum general dose rate levels are defined in the Space where the system is located.</p> <p>Remove source material to mitigate radiation exposure using the "Reasonable Best Effort" methodology.</p>
<ul style="list-style-type: none"> <i>Comply with Regulations & Requirements</i> 	A	<p>Remove temporary radiological zones.</p> <p>Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual (HSRCM-1)</u>, Chapter 2, Rev 2, (Ref EPTI #4).</p>
<ul style="list-style-type: none"> <i>Meet Commitments to Stakeholders</i> 	A	<p>None.</p>

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Abandoned in Place

Case 6

Task Area (TA-3): Contamination		
Examples		
●Beta/Gamma Non-fixed Contamination		●Alpha Non-fixed Contamination ●Contaminated Liquid Removal
Objective	End Point	
Facilitate S&M ●Protect Workers ●Reduce Cost	*	Maximum removable contamination levels are defined in the Space where the system is located. Remove source material to mitigate contamination migration using the "Reasonable Best Effort" methodology.
Comply with Regulations & Requirements	A	Post radiological conditions in accordance with <u>Hanford Site Radiological Control Manual</u> (HSRCM-1), Chapter 2, Rev 2, (Ref EPTI #4).
Meet Commitments to Stakeholders	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Abandoned in Place

Case 6

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i> 		
Objective	End Point	
Comply with Regulations & Requirements	*	Flush/drain process tanks and associated piping so the heels do not exhibit dangerous waste characteristics.
Meet Commitments to Stakeholders	A	Drain or flush pumps and piping to remove material exhibiting dangerous waste characteristics.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Abandoned in Place

Case 6

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● Sealing of Spaces ● Exterior Penetrations (animals, weather, etc.) ● Isolate Piping ● Security Systems 		
Objective	End Point	
Protect Public & Environment	*	Ensure engineered barriers/seals for penetrations/drains/piping/ventilation leading to the environment are in place.
Facilitate S&M ● Protect Workers ● Reduce Cost	*	Ensure engineered barriers/seals for flanges/drains/piping leading to the surrounding space are in place.
Meet Commitments to Stakeholders	A	None.

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Abandoned in Place

Case 6

<i>Task Area (TA-6): Monitor & Control</i>		
<i>Examples</i>		
<ul style="list-style-type: none"> ● <i>Radiological Monitors</i> ● <i>Air Sampling Capability</i> ● <i>Sump Level Indication</i> ● <i>Electrical Distribution and Control</i> ● <i>HVAC Monitoring and Control</i> 		
<i>Objective</i>	<i>End Point</i>	
<i>Meet Commitments to Stakeholders</i>	A	None.

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Abandoned in Place

Case 6

<i>Task Area (TA-7): Refurbish or Install</i>		
<i>Examples</i>		
<ul style="list-style-type: none"> ● <i>S&M Requirements/Procedures</i> ● <i>Operational Equipment Refurbished/Tested</i> ● <i>Spare Parts</i> 		
<i>Objective</i>	<i>End Point</i>	
<i>Meet Commitments to Stakeholders</i>	A	None.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ COMMON END POINT CRITERIA

Systems - Abandoned in Place

Case 6

Task Area (TA-8): Document & Label		
Examples		
<ul style="list-style-type: none"> ● Proper Postings (rad area, asbestos, etc.) ● Label Operational ● Equipment/Instrumentation 		<ul style="list-style-type: none"> ● <u>Documentation:</u> Radiological Conditions Equipment/System Configuration
Objective	End Point	
<p>Facilitate S&M</p> <ul style="list-style-type: none"> ● Protect Workers ● Reduce Cost 	*	<p>Label "Abandoned in Place" system.</p> <p>Include identified space hazards in turnover documentation.</p> <p>Reconcile final Special Nuclear Material inventory.</p> <p>Include final chemical inventory in turnover documentation.</p>
<p>Facilitate D&D</p>	*	<p>Provide current plant engineering and administrative documentation to include deactivation work plans, certified vendor information (CVI), special nuclear material (SNM) inventory, final radiological surveys and maps, S&M procedures, checklists, and essential cell arrangement & lighting electrical distribution drawings.</p> <p>Document (by location) and quantify the remaining Uranium.</p>
<p>Comply with Regulations & Requirements</p>	A	<p>Document contamination levels in the final radiological survey report and map per <u>Hanford Site Radiological Control Manual (HSRCM-1)</u>, Chapter 5, Rev 2 (Ref EPTI #9).</p> <p>Implement Configuration Management per WHC-SD-HT-RPT-001, <u>WHC Uniform Configuration Management Approach for Deactivation of Transition Projects</u>, Rev.0 (Ref. EPTI #8).</p>
<p>Meet Commitments to Stakeholders</p>	A	<p>None.</p>

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

CASE 6
SPECIFIC
CRITERIA
(Level III)

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UO₃ SPECIFIC END POINT CRITERIA

224-U HVAC

CASE 6

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● Sealing of Spaces ● Exterior Penetrations (animals, weather, etc.) 		<ul style="list-style-type: none"> ● Isolate Piping ● Security Systems
Objective	End Point	
Protect Public & Environment	*	Seal the eleven roof exhausters to isolate facility from the environment. Seal the four roof supply fans to isolate facility from the environment.
Facilitate S & M ● Protect Workers ● Reduce Cost	*	Isolate the P&O gallery exhausters to canyon cells to prevent contamination migration.

Task Area (TA-8): Document & Label		
Examples		
<ul style="list-style-type: none"> ● Proper Postings (radiological area, asbestos, etc.) ● Label Operational Equipment/Instrumentation 		<ul style="list-style-type: none"> ● <u>Documentation:</u> Radiological Conditions Equipment/System Configuration
Objective	End Point	
Facilitate S & M ● Protect Workers ● Reduce Cost	*	Replace the Buffalo Units supply "Rock Stopper" filters with new just prior to facility turnover.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

**UO₃ SPECIFIC END POINT CRITERIA
224-U SECOND FLOOR ALCOVE SYSTEMS**

WHC-SD-WM-TPP-052
Rev. 0

CASE 6

Task Area (TA-3): Contamination		
Examples		
<ul style="list-style-type: none"> ● Beta/Gamma Non-fixed Contamination 		<ul style="list-style-type: none"> ● Alpha Non-fixed Contamination ● Contaminated Liquid Removal
Objective	End Point	
<ul style="list-style-type: none"> Facilitate S & M ● Protect Workers ● Reduce Cost 	*	Isolate alcove exhaust fan penetration into E-Cell.

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● Dangerous Waste (including permits) ● Low Level Waste ● Mixed Waste 		<ul style="list-style-type: none"> ● TRU Waste ● TRU Mixed Waste ● High Level TRU Mixed Waste ● Non-Regulated Waste
Objective	End Point	
Comply with Regulations & Requirements	*	Flush the phosphoric acid tank (Tk-C8 in C alcove) so the tank heel does not exhibit dangerous waste characteristics.
Meet Commitments to Stakeholders	A	Flush the sulfuric acid tank (Tk-D-12 in D alcove) so the tank heel does not exhibit dangerous waste characteristics.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
HVAC 224-U LUNCHROOM
CASE 6

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 		<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i>
Objective	End Point	
<ul style="list-style-type: none"> <i>Facilitate S&M</i> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	Blank the inlet and ensure screens are in place on the lunchroom exhaust vents.

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA

224-U U4 STACK

CASE 6

<i>Task Area (TA-5): Isolate & Contain</i>		
<i>Examples</i>		
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 		<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i>
<i>Objective</i>	<i>End Point</i>	
<i>Protect Public & Environment</i>	*	Cap top of the U4 stack. Notify the Department of Health once completed.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

**UO₃ SPECIFIC END POINT CRITERIA
A THRU D CANYON CELLS**

CASE 6

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i> 		
Objective	End Point	
Comply with Regulations & Requirements	*	Flush/drain (Tanks must be flushed and sampled) the following so the residual material is less than 0.2 volume percent or does not exhibit dangerous waste characteristics: <ul style="list-style-type: none"> ● EA-4 ● TA-3 ● ED-2 ● ED-6 ● ED-7 ● DD-1 ● Tk-D4 ● EB-3 ● Tk-C1 ● Tk-C2 ● Tk-C3 ● Tk-C4 ● Tk-C5 ● Tk-C7 ● Tk-C9 ● ED-3 ● Tk-D9 ● Tk-D5 ● Tk-D13 ● Tk-D10 ● Tk-D8 ● Tk-C10 ● C-2 Sealpot ● C-6 Cooler
Meet Commitments to Stakeholders	A	Including associated piping and pumps.

*
Primary Consideration
Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
Check requirements, act accordingly.

**UO₃ SPECIFIC END POINT CRITERIA
CALCINING SYSTEM**

WHC-SD-WM-TPP-052
Rev. 0

CASE 6

Task Area (TA-1): Hazards		
Examples		
<ul style="list-style-type: none"> ● <i>Criticality</i> ● <i>Fire hazard</i> ● <i>Structural Integrity</i> 		<ul style="list-style-type: none"> ● <i>Dangerous Materials</i> ● <i>Confined Spaces</i> ● <i>Electrical Circuits/Equipment</i>
Objective	End Point	
<ul style="list-style-type: none"> <i>Facilitate S&M</i> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	Drain oil from the calciner agitator motor gear reducer.

Task Area (TA-3): Contamination		
Examples		
<ul style="list-style-type: none"> ● <i>Beta/Gamma Non-fixed Contamination</i> 		<ul style="list-style-type: none"> ● <i>Alpha Non-fixed Contamination</i> ● <i>Contaminated Liquid Removal</i>
Objective	End Point	
<ul style="list-style-type: none"> <i>Facilitate S&M</i> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	*	Steam out the fume vent header to remove residual material (Reasonable Best Effort).

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

**UO₃ SPECIFIC END POINT CRITERIA
CALCINING SYSTEM**

WHC-SD-WM-TPP-05:
Rev. 0

CASE 6

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> 		<ul style="list-style-type: none"> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i>
Objective	End Point	
Comply with Regulations & Requirements	*	Remove calciner heater control tubes (Mercury).

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 		<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i>
Objective	End Point	
Protect Public & Environment	*	Isolate Quench pot outlet to 207-U basin. Seal calciner roll up doors.
Facilitate S&M ● <i>Protect Workers</i> ● <i>Reduce Cost</i>	*	Remove loose contamination (Reasonable Best Effort) from the inside of the Hot boxes and isolate from the 224-UA space. Isolate (plug) floor drains.

*
Primary Consideration
Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
POWDER HANDLING
CASE 6

Task Area (TA-5): Isolate & Contain	
Examples	
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 	<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i>
Objective	End Point
Protect Public & Environment	* Seal access doors into the X-29 filter housings (four doors each). Isolate bottom of X-29 secondary bay filter powder collection hopper. Cap top of U-2 stack. Notify the Department of Health once completed. Cap top of U-13 stack. Notify the Department of Health once completed. Seal roll up doors in Loadout room.
	* Blank visual inspection ports and airbleeds inlets of the pickup bins. Blank X-26 inspection port on top of hopper. Remove and cap or seal vacuum breaker before X-31 filter housing. Blank inlets to X-28 blow rings. Seal powder sampler in loadout hood.
Facilitate S&M ● <i>Protect Workers</i> ● <i>Reduce Cost</i>	

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA

224-UA FIRE SYSTEM

CASE 6

<i>Task Area (TA-4): Waste</i>		
<i>Examples</i>		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i> 		
<i>Objective</i>	<i>End Point</i>	
<i>Comply with Regulations & Requirements</i>	*	Remove batteries from Fire Protection building fire zone indication panels.

*

Primary Consideration
Likely to be a controlling factor in setting end point.

✓

Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable
Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA

224-UA HVAC

CASE 6

<i>Task Area (TA-5): Isolate & Contain</i>		
<i>Examples</i>		
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 		<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i>
<i>Objective</i>	<i>End Point</i>	
<i>Protect Public & Environment</i>	*	Seal supply fan inlet. Seal exhausters outlets (7).

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA

WHC-SD-WM-TPP-052
Rev. 0

203-U
CASE 6

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i> 		
Objective	End Point	
Comply with Regulations & Requirements	*	Flush/drain (Tanks must be flushed and sampled) the following so the residual material is less than 0.2 volume percent or does not exhibit dangerous waste characteristics: <ul style="list-style-type: none"> ● X-1 ● X-2 ● X-38 ● X-37 ● X-36 Including associated piping and pumps.
Meet Commitments to Stakeholders	A	

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA

WHC-SD-WM-TPP-052

Rev. 0

211-U

CASE 6

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i> 		
Objective	End Point	
Comply with Regulations & Requirements	*	Flush/drain (Tanks must be flushed and sampled) the following so the residual material is less than 0.2 volume percent or does not exhibit dangerous waste characteristics: <ul style="list-style-type: none"> ● X-306 ● X-307 ● X-308 ● X-301 ● X-302 ● X-303 ● P-307 Pump pit Including associated piping and pumps.
Meet Commitments to Stakeholders	A	

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
BACK PAD/203-UX
CASE 6

Task Area (TA-3): Contamination		
Examples		
<ul style="list-style-type: none"> ● Beta/Gamma Non-fixed Contamination 		<ul style="list-style-type: none"> ● Alpha Non-fixed Contamination ● Contaminated Liquid Removal
Objective	End Point	
<ul style="list-style-type: none"> Facilitate S&M ● Protect Workers ● Reduce Cost 	*	Remove contaminated insulation from the F1/F2 filters (Reasonable Best Effort). Remove contaminated insulation from the Loop Header and Tk-30 (Reasonable Best Effort). Remove the C2-F filter bags.

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● Dangerous Waste (including permits) ● Low Level Waste ● Mixed Waste 		<ul style="list-style-type: none"> ● TRU Waste ● TRU Mixed Waste ● High Level TRU Mixed Waste ● Non-Regulated Waste
Objective	End Point	
<ul style="list-style-type: none"> Comply with Regulations & Requirements 	*	Flush/drain (Tanks must be flushed and sampled) the following so the residual material is less than 0.2 volume percent or does not exhibit dangerous waste characteristics: <ul style="list-style-type: none"> ● Tank X-30 ● Loop Header ● Tank X-20 and associated pump and piping ● F1/F2 filter housings ● C2-F filter housing ● Decon Sink
<ul style="list-style-type: none"> Meet Commitments to Stakeholders 		

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
BACK PAD/203-UX
CASE 6

WHC-SD-WM-TPP-052
 Rev. 0

Task Area (TA-5): Isolate & Contain	
Examples	
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 	<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i>
Objective	End Point
Protect Public & Environment	<ul style="list-style-type: none"> * Seal top opening of tank X-19. * Seal the lid to the decon sink to prevent vermin infestations. * Isolate the sump drains in front of 224-UA.

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
UNH TRUCK PAD
CASE 6

<i>Task Area (TA-4): Waste</i>		
<i>Examples</i>		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> 		<ul style="list-style-type: none"> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i>
<i>Objective</i>	<i>End Point</i>	
<i>Comply with Regulations & Requirements</i>	*	Drain/flush associated piping so the residual material is less than 0.2 volume percent or does not exhibit dangerous waste characteristics.

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
UTILITIES
CASE 6

WHC-SD-WM-TPP-052
 Rev. 0

Task Area (TA-1): Hazards	
Examples	
<ul style="list-style-type: none"> ● <i>Criticality</i> ● <i>Fire hazard</i> ● <i>Structural Integrity</i> 	<ul style="list-style-type: none"> ● <i>Dangerous Materials</i> ● <i>Confined Spaces</i> ● <i>Electrical Circuits/Equipment</i>
Objective	End Point
<p><i>Facilitate S & M</i></p> <ul style="list-style-type: none"> ● <i>Protect Workers</i> ● <i>Reduce Cost</i> 	<p style="text-align: center;">*</p> <p>Isolate raw water at the most consolidated point up stream from the facilities and drain lines.</p> <p>Isolate sanitary water at the most consolidated point up stream from the facilities and drain lines.</p> <p>Isolate steam at the most consolidated point up stream from the facilities and drain lines.</p> <p>Isolate electricity at the most consolidated point up stream from the facilities and perform zero energy checks on MCC's. Electrical supply for lighting will exist to support S&M activities.</p> <p>Isolate toilet and sink drains from the sanitary sewer.</p>

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA
272-U HVAC
CASE 6

WHC-SD-WM-TPP-05:
Rev. 0

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● Sealing of Spaces ● Exterior Penetrations (animals, weather, etc.) 		<ul style="list-style-type: none"> ● Isolate Piping ● Security Systems
Objective	End Point	
Protect Public & Environment	*	Seal opening from swamp coolers in the building. Seal hot shop wall exhaust fan.
Facilitate S&M ● Protect Workers ● Reduce Cost	*	Ensure cold shop wall exhaust fan louvers will not open.

*
Primary Consideration
 Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
 Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
 Check requirements, act accordingly.

UO₃ SPECIFIC END POINT CRITERIA

272-U PUMP PIT

CASE 6

Task Area (TA-4): Waste		
Examples		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> 	<ul style="list-style-type: none"> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i> 	
Objective	End Point	
Comply with Regulations & Requirements	*	Sample the pit to verify no dangerous waste characteristics exist.
Meet Commitments to Stakeholders	A	

Task Area (TA-5): Isolate & Contain		
Examples		
<ul style="list-style-type: none"> ● <i>Sealing of Spaces</i> ● <i>Exterior Penetrations (animals, weather, etc.)</i> 	<ul style="list-style-type: none"> ● <i>Isolate Piping</i> ● <i>Security Systems</i> 	
Objective	End Point	
Protect Public & Environment	*	Seal pit cover.

*

Primary Consideration

Likely to be a controlling factor in setting end point.

✓

Secondary Consideration

Not likely to control end points, but there may be merit if simple, cost-effective.

A

As Applicable

Check requirements, act accordingly.

**UO₃ SPECIFIC END POINT CRITERIA
LEGACY EQUIPMENT
CASE 6**

<i>Task Area (TA-4): Waste</i>		
<i>Examples</i>		
<ul style="list-style-type: none"> ● <i>Dangerous Waste (including permits)</i> ● <i>Low Level Waste</i> ● <i>Mixed Waste</i> 		<ul style="list-style-type: none"> ● <i>TRU Waste</i> ● <i>TRU Mixed Waste</i> ● <i>High Level TRU Mixed Waste</i> ● <i>Non-Regulated Waste</i>
<i>Objective</i>	<i>End Point</i>	
<i>Comply with Regulations & Requirements</i>	*	Verify vessels listed as Legacy Equipment are drained/empty.

*
Primary Consideration
Likely to be a controlling factor in setting end point.

✓
Secondary Consideration
Not likely to control end points, but there may be merit if simple, cost-effective.

A
As Applicable
Check requirements, act accordingly.

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