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This document is approved for public release per review by:
Teresa D. Fancher 3/26/19
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 Information Control Office

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REVISION LOG			
Revision	Effective Date	Description of Changes	Pages Affected
6	4/4/19	Intent change. Add roles and responsibility language to capture DOE reporting requirements to address CAMS issue IF-2019-0110. Included updated programmatic implementing procedures.	5, 9, 13, 22, 23, 24, 35
5	4/30/18	Intent change. Add the requirement to receive programmatic approval to make waste determinations on behalf of UCOR, IF-2018-0184, add the waste hierarchy graphic, and programmatic procedure references. Updated WGS reference to WM and some roles and responsibilities.	All
4	5/4/16	Non-intent change. Update reference to current UCOR document number. Addresses IF-2016-0415.	13
3	10/6/15	Intent change. Add references to include directive DIR-UCOR-510.	All
2	5/13/14	Intent change. Address I/CATS I0080780, I0080782, I0080783. Included references and pointers to UCOR-4266. Revised Scope to include legacy waste, inactive sites, and mixed TRU waste. Modified WPS/Verifier responsibilities. Added waste certification responsibilities. Updated Phase III diagram in Attachment C. Technical formatting and edit.	All 2 23 45 All
1	5/23/12	Intent change. Added TR procedures to WM Implementing Procedures section. Updated references. Updated and moved UCOR document references to Requirements. Updated roles and responsibilities of WCO, SME, and WPS/V. Updated Attachment C flow chart to reference applicable TR procedures.	9-12 17 18,19 21,22,28,29 44
0	4/30/12	Initial release.	All

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PURPOSE

This program plan describes the URS | CH2M Oak Ridge LLC (UCOR, an AECOM-led partnership with Jacobs) Waste Management (WM) Program implemented by the WM Organization (WMO). The WMO is responsible for the integration, management, and disposition of wastes generated by ongoing Surveillance and Maintenance, Decontamination and Decommissioning (D&D) and cleanup activities under the UCOR Contract with the U.S. Department of Energy, Oak Ridge Office (DOE-ORO). This plan meets the requirement outlined in DOE Manual (M) 435.1, Change 2, Chapter I.F (1), “Site-Wide Radioactive Waste Management Programs,” for developing, documenting, implementing, and maintaining a site-wide Radioactive Waste Management Program to ensure that the requirements of DOE Order (O) 435.1, *Radioactive Waste Management*, and its associated manual are met.

The goal of the WM Program is to effectively manage waste from identification/characterization through shipment to a final Treatment, Storage, Disposal, and Recycle Facility (TSDRF) so the waste does not require onsite storage. Prior to commencing waste-generating activities, a disposition path is identified and necessary funding is allocated to achieve the goal of this Program. Generation of waste With No Identified Path to Disposal (WNPD) requires management and DOE approvals, as outlined in DOE O 435.1.

This Program Plan relies on the WM Program and Disposition Manager within WM for effective implementation. In addition to the Waste Programs and Disposition Manager responsibilities, the WMO provides waste management services to all UCOR projects and activities.

The WMO manages waste storage operations at the K-1065 Facility Complex at the East Tennessee Technology Park (ETTP) and Melton Valley Solid Waste Storage Facilities (MVSWSF) at the Oak Ridge National Laboratory (ORNL).

The WMO also manages waste disposition operations at the Environmental Management Waste Management Facility (EMWMF) as well as the Oak Ridge Reservation (ORR) Landfills.

SCOPE

UCOR Areas/Projects

UCOR areas/projects interfacing with this Plan include:

- K-25/K-27 Project
- Poplar Creek and Balance of Facilities D&D Project
- ETTP Cleanup Enterprise
- ORNL Operations and Cleanup Enterprise
- Y-12 National Security Complex (Y-12) Cleanup Enterprise
- Legacy waste and inactive sites
- Tank W1-A Removal Project
- K-1065 Facility Complex Stored Waste
- MVSWSF Stored Transuranic (TRU) Waste

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- EMWMF waste profiling, tracking, and disposition are governed, managed, and executed by established agreements, processes, and procedures, which take precedence over some elements of this Plan.
- Oak Ridge Reservation (ORR) Landfill waste profiling, tracking, and disposition are governed, managed, and executed by established agreements, processes, and procedures, which take precedence over some elements of this Plan.
- Liquid and Gaseous Waste Operations (LGWO) waste profiling, tracking, and disposition are governed, managed, and executed by established agreements, processes, and procedures, which take precedence over some elements of this Plan.
- Chromium Water Treatment System (CWTS) waste profiling, tracking, and disposition are governed, managed, and executed by established agreements, processes, and procedures, which take precedence over some elements of this Plan.

Waste Types

The scope of this plan includes the legacy and newly generated waste types listed below:

- Low-level waste (LLW)
- Mixed low-level waste (MLLW)
- Hazardous waste, including used oil
- Recyclable materials
- WNPD
- Industrial waste (IW) – only IW destined for the ORR Landfills
- Polychlorinated biphenyl (PCB) waste
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) waste
- Universal waste (UW)
- Asbestos waste
- Newly generated TRU and mixed TRU waste prior to TRU waste facility acceptance

Generator Services

This WM Program provides waste generators a streamlined process for life cycle management of newly generated wastes associated with UCOR projects. Activities supporting life cycle management of UCOR projects waste include pre-generation planning, characterization, packaging, certification, tracking, transfer, disposal, and records closure.

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The primary objectives of the WM Program is to:

- Assist and guide waste generators with planning, generation, characterization, and disposition of their waste.
- Ensure that the CERCLA pedigree of waste and materials is identified for proper disposition at CERCLA approved TSDRFs.
- Work with waste generators to reduce, reuse, and recycle potential waste streams to minimize the generation of waste.
- Initiate and maintain a waste tracking system (eMWaste) to document the waste generation description, characterization information, location, and package types to ensure compliance with DOE Order 435.1 and other applicable regulations.
- Coordinate with EMWMF and Waste Acceptance Criteria (WAC) Attainment to profile and approve waste for disposal to that facility.
- Coordinate with ORR Landfills Waste Acceptance Team to approve waste for disposal at those facilities.
- Conduct evaluations of TSDRFs to ensure UCOR quality and regulatory requirements are satisfied prior to use.
- Develop waste disposition profiles, work releases, and contracts to streamline and expedite offsite waste disposal.
- Perform WNPd determinations.
- Select offsite TSDRF and associated subcontract management.
- Manage WM areas, including: Resource Conservation and Recovery Act (RCRA) accumulation areas, UW areas, PCB areas, LLW areas, and CERCLA waste areas.
- Administer Waste Program plans and procedures.
- Coordinate with Nuclear Materials Control and Accountability (NMC&A) and Safeguards and Security to ensure safeguards and accountability controls have been reviewed and are implemented when required.
- Ensure the generator's waste is packaged, managed, shipped, treated (as required), disposed safely, and in accordance with all the applicable laws, regulations, and DOE Orders governing these activities.
- Provide waste tracking, shipment, and disposal metrics to DOE for Integrated Planning, Accountability, and Budgeting System (IPABS), disposal facility, and regulatory reporting.
- Maintain the UCOR Waste Certification Program that is comprised of the systems, processes, and controls required for proper waste stream characterization, waste certification, quality assurance (QA), and waste package transfer to meet the WAC of TSDRFs.

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VISION AND STRATEGY

The vision for the UCOR WM Program is to manage newly generated waste in a safe, compliant, and efficient manner in accordance with applicable regulations and contractual requirements. Waste generated by the execution of the UCOR Contract will be transferred to TSDRFs in a manner consistent with regulatory time limits.

The waste inventory generated prior to August 1, 2011, also referred to as legacy waste, will be managed and reduced or eliminated on a timetable consistent with regulatory requirements, DOE priorities, funding availability, and Contract commitments.

The UCOR WM strategy will be implemented via processes and procedures using DOE M 435.1 requirements as the framework for this program and as the basis for measuring effective implementation.

The UCOR WM Program Vision and Strategy require:

1. Effecting a culture change where pre-generation planning is conducted as a routine means of doing business to ensure waste is characterized and a disposition path is identified before the waste is generated.
2. Authorizing the generation of waste through the integration of WM personnel, processes, and procedures with the integrated work control process to ensure all waste has a clearly defined disposal path or waste with no identified path to disposal has been identified, the need to generate the waste evaluated, and the waste generation is approved.
3. Evaluating waste disposition in the following sequence, while considering impacts to cost and schedule. The Waste Management Disposition Hierarchy Graphic is provided in Attachment D.
 - Can the waste be recycled/reused?
 - Is the waste a candidate for the ORR Industrial Landfill or onsite disposition?
 - If CERCLA waste, can it be dispositioned at the EMWMF?
 - Can the waste be disposed at another DOE facility?
 - Can the waste processing (e.g., RCRA treatment, repackaging, sorting and segregating, down-blending) be performed at a commercial facility, rather than self-performed by UCOR?
 - Use of Non-DOE Facilities - DOE M 435.1-1, Chapter 1, Section 2, F(4), states that DOE radioactive waste shall be treated, stored, and in the case of LLW, disposed of at the site where the waste is generated, if practical; or at another DOE facility. If DOE facilities are not practical or cost effective, exemptions may be approved to allow use of non-DOE facilities. Requirements for the non-DOE facilities are outlined in DOE M 435.1-1.
4. Minimizing the storage of newly generated waste by transferring waste directly from the point of generation, whenever possible, to a TSDR facility in a manner consistent with regulatory time limits.

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5. Tracking waste containers from receipt as empty through packaging and disposal.
6. Documenting waste management from a life cycle process perspective, starting with waste generation and disposition planning, and ending with waste tracking and records closure.
7. Supporting TRU waste storage and transfer to the TRU Waste Processing Center (TWPC) in support of the DOE TRU Program and the Site Treatment Plan (STP) milestones for TRU waste.
8. Supporting the reduction of non-TRU Legacy Waste inventory remaining onsite at the start of the UCOR Contract on a timetable consistent with DOE priorities, funding availability, regulatory requirements, and Contract commitments.

Summary

Implementation of the UCOR WM Program in accordance with this Vision and Strategy will result in a program that is cost effective; utilizes onsite disposal resources, as much as practicable; promotes waste disposition, rather than storage; and is compliant with regulatory and contractual requirements.

WM Program Vision and Strategy Implementation Approach

A life-cycle waste management process was formulated as a framework for the development of the implementing administrative procedures. The waste management process, consisting of discrete steps, is shown in Attachment B. This life-cycle waste management process identifies the program-level roles and relationships.

Administrative procedures have been developed to support the implementation of the WM Program. These procedures provide requirements for maintaining and demonstrating program compliance.

This Program meets the requirements for waste traceability; life-cycle management of waste; and systematically plans, documents, executes, evaluates, and improves the management of DOE radioactive waste in accordance with DOE O 435.1. This Program organizes the life-cycle waste management process with the implementing procedures into four phases. The four phases are shown in Attachment C. Each phase identifies the applicable supporting procedures. A brief description of each phase is provided below.

Phase I focuses on waste generation and disposition planning. In this phase, waste streams are identified and characterized. Waste disposition determinations are made to ensure that the waste has an identified path to disposal at the time of generation. This phase interfaces with the work control process associated with the waste-generating activities.

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Phase II focuses on waste generation, segregation, packaging certification, and inventory control. The objective of this phase is to produce a waste certified to a disposition outlet waste acceptance requirement. This phase verifies the waste generation and disposition planning information developed in Phase I. Phase II maintains inventory control within the waste management areas established for each waste-generating activity.

Phase III focuses on the development of waste loads for shipment, scheduling shipments, U.S. Department of Transportation (DOT) certification, and shipping the waste inventory developed in Phase II. The information from Phase I and Phase II is used in the development of waste loads by disposition destination, while maintaining financial responsibility to the generator.

Phase IV focuses on the treatment and/or disposal of the shipped waste. After the waste is treated and/or disposed, the certificates of disposition from the applicable TSDRFs are used as documentation to close and archive waste container records consistent with applicable waste type record retention and regulatory requirements.

The purpose and scope for the implementing procedures supporting the four phases identified in Attachment C are described below:

Waste Management Program Implementing Procedures

- PROC-TR-4551, *Radiological Classification of Surface Contaminated Objects*
- PROC-TR-9001, *Aviation Management and Safety*
- PROC-TR-9006, *Controlled Substances Use and Alcohol Misuse and Testing for Commercial Motor Vehicle Operators*
- PROC-TR-9501, *Load Securement*
- PROC-TR-9502, *Guidelines for Motor Carriers*
- PROC-TR-9503, *Shipping Samples from a Company Site*
- PROC-TR-9504, *Placarding Requirements for the Transportation of Hazardous Materials*
- PROC-TR-9505, *Labeling Requirements for the Transportation of Hazardous Materials*
- PROC-TR-9506, *Marking Requirements for the Transport of Hazardous Materials*
- PROC-TR-9507, *Shipping Papers Requirements*
- PROC-TR-9508, *Classification of Hazardous Materials for Transport*
- PROC-TR-9509, *Packaging Hazardous Materials for Transport*
- PROC-TR-9510, *Transportation Oversight of URS | CH2M Oak Ridge LLC Transportation Activities*
- PROC-TR-9512, *Motor Carrier Safety Compliance*

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- PROC-TR-9516, *Transportation Equipment Coordination and Inspection for Offsite Shipments*
- PROC-TR-9517, *Inspection and Testing of Cargo Tanks*
- PROC-WD-1400, *Change Log Process*
- PROC-WM-2010, *Waste Container Management*
- PROC-WM-2013, *Certification of Waste for Disposal at the Nevada National Security Site*
- PROC-WM-2020, *Pre-Job Planning for Waste Generating Activities*
- PROC-WM-2021, *UCOR Waste Management Areas*
- PROC-WM-2022, *Preparation of the UCN-2109 Data Package*
- PROC-WM-2024, *Identifying and Tracking Waste Containers for Shipment to Non-UCOR Facilities*
- PROC-WM-2026, *Compiling, Distributing, and Managing Waste Management Program Records*
- PROC-WM-2027, *Waste Generator's Guide to Disposing of Waste at the EMWMF*
- PROC-WM-2028, *Waste Generators' Guide to Disposing of Waste at the ORR Landfills*
- PROC-WM-2029, *Characterization and Waste Profile Administration for Environmental Management Waste Management Facility Waste*
- PROC-WM-2030, *Waste Generators' Guide to Disposing of Waste at LGWO Facilities*
- PROC-WM-2031, *Waste Management Calculations*
- PROC-WM-6000, *Waste Tracking and Records Closure*

Facilities, Operations, and Activities

Management of newly generated LLW, MLLW, contact handled transuranic waste (CH-TRU), and contact handled mixed transuranic waste (CH-MTRU) waste as implemented through this document meets the radioactive waste management basis (RWMB) requirements of DOE Order 435.1, *Radioactive Waste Management*.

DOE O 435.1-1, Chapter IV, Section D, specifies that:

“Low-level waste facilities, operations, and activities shall have a radioactive waste management basis consisting of physical and administrative controls to ensure the protection of workers, the public, and the environment. The following specific waste management controls shall be part of the radioactive waste management basis:

- Generators. The waste certification program.
- *Treatment Facilities. The waste acceptance requirements and the waste certification program.*

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- *Storage Facilities. The waste acceptance requirements and the waste certification program.*
- *Disposal Facilities. The performance assessment, composite analysis, disposal authorization statement, closure plan, waste acceptance requirements, and monitoring plan.”*

Legacy Waste

A large population of containerized CERCLA waste generated prior to August 1, 2011 exists across the ORR Complex. Legacy waste is appropriately defined as “stored” waste currently in inventory. As a matter of policy, funding for waste management must be approved prior to generation. These wastes and some uncontainerized items/equipment have been identified as a “Material Difference” to the UCOR Contract and a request for funding to disposition has been made to DOE-Oak Ridge. CERCLA generated LLW and MLLW are not subject to the typical one-year disposal requirements required by DOE O 435.1, since the waste is being managed for disposal as a component of a larger CERCLA waste population of building and content debris where the LLW is staged. This is consistent with the CERCLA decision document applicable or relevant and appropriate (ARAR) CERCLA project requirements approved by DOE, Tennessee Department of Environment and Conservation (TDEC), and U.S. Environmental Protection Agency (EPA) representatives as a component of the CERCLA Federal Facility Agreement Decision Documents. TRU waste treatment and disposal is governed by the STP Agreement with the state of Tennessee. At the field level, UCOR is actively managing these wastes protective of human health and the environment by tracking, labeling, managing in posted areas, and performing routine inspections. The wastes have been prioritized for disposition based on risk or economies of scale associated with volumes and will be dispositioned as funding is made available. At the functional level, the Legacy Waste/Process Waste Inventory Project department within the WMO is responsible for the administration and disposition of the WNP, STP, Compliance Agreement wastes, legacy MLLWs and legacy LLWs.

Inactive CERCLA Facilities

UCOR is responsible for the D&D of numerous facilities and structures associated with CERCLA Action Memoranda throughout ETP. These facilities, their contents, and other materials associated with them are not actively managed as waste until the physical D&D process is initiated. The small volumes of wastes generated by isolating these facilities to achieve Cold-and-Dark status typically remain inside the facility to allow for efficient disposition with the facility structure.

Waste With No Identified Path to Disposal

The UCOR waste generation planning process is well defined in PROC-WM-2020, *Pre-Job Planning For Waste Generating Activities*, and includes the requirements for documenting and authorizing all waste generation activities.

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The generation of WNPD requires the following:

- Programmatic need to generate the waste
- Characteristics and issues preventing the disposal of the waste
- Safe storage of the waste until disposal can be achieved
- Activities and plans for achieving final disposal of the waste

A written request will be transmitted to the DOE Field Element Manager for review and approval. (Reference: UCOR-4266, *Radioactive Waste Management Basis for the Oak Ridge Reservation, Oak Ridge, Tennessee*, Sect. 3.3.6.)

REQUIREMENTS

The WM Program uses DOE O 435.1 requirements as the framework for program management and as the basis for measuring the effective implementation of this Program. This Program credits company-level functional procedures to implement WM requirements derived from the following applicable Code of Federal Regulations (CFRs); state of Tennessee requirements; DOE Orders, Manuals, and Guides; and waste acceptance requirements from the TSDRFs supporting the disposition of UCOR-generated waste:

- DOE O 435.1, *Radioactive Waste Management*
- DOE M 435.1-1, *Radioactive Waste Management Manual*
- DOE N 435.1, *Contact-Handled and Remote-Handled Transuranic Waste Packaging*
- DOE O 440.1B, *Worker Protection Management for DOE (Including the National Nuclear Security Administration) Federal Employees*
- DOE O 436.1, *Departmental Sustainability*
- DOE O 5400.5, *Radiation Protection of the Public and the Environment*
- EMWMF Waste Profile and Verification Sample Guidance
- Any TSDRF WAC receiving UCOR waste for treatment or disposal (e.g., EMWMF, Energy Solutions, Nevada National Security Site [NNSS], ORR Landfills, PermaFix)
- 10 CFR Part 20.2005, Disposal of Specific Wastes
- 10 CFR Part 835, Occupational Radiation Protection
- 40 CFR Part 260, Hazardous Waste Management System: General
- 40 CFR Part 261, Identification and Listing of Hazardous Waste
- 40 CFR Part 262, Standards Applicable to Generators of Hazardous Waste
- 40 CFR Part 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
- 40 CFR Part 265, Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

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- 40 CFR 266, Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
- 40 CFR Part 268, Land Disposal Restrictions
- 40 CFR Part 273, Standards for Universal Waste Management
- 40 CFR Part 279, Standards for the Management of Used Oil
- 40 CFR Part 302.4, Designation of Hazardous Substances
- 40 CFR Part 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
- 49 CFR, Transportation
- TR 0400-12-01-.01 through .12, Hazardous Waste Management
- TR 0400-11-01-.01 through .13, Solid Waste Processing and Disposal
- TR 1200-03-11-.02, Hazardous Air Contaminants-Asbestos
- Oak Ridge Reservation Polychlorinated Biphenyl Federal Facility Compliance Agreement (ORR PCB FFCA)
- Site Treatment Plan for Mixed Wastes on the U.S. Department of Energy Oak Ridge Reservation
- UCOR-4080, *Profiling and Qualifying Oak Ridge Low-Level Waste Streams for Disposal at the Nevada National Security Site, Oak Ridge, Tennessee*
- UCOR-4127, *Pollution Prevention and Waste Minimization Program Plan for the East Tennessee Technology Park, Oak Ridge Tennessee*
- UCOR-4187, *URS | CH2M Oak Ridge LLC Waste Certification Program Plan, Oak Ridge, Tennessee*
- UCOR-4188, *URS | CH2M Oak Ridge LLC Waste Characterization Plan, Oak Ridge, Tennessee*
- UCOR-4189, *URS | CH2M Oak Ridge LLC Quality Assurance Plan for Environmental Characterization and Monitoring, Oak Ridge, Tennessee*
- UCOR-4191, *Radiological Quantification Guidance for Solid Wastes, Oak Ridge, Tennessee*
- UCOR-4192, *Matrix for Implementing Procedures for Certification of Low-Level Waste to the Nevada National Security Site, Oak Ridge, Tennessee*
- UCOR-4266, *Radioactive Waste Management Basis for the Oak Ridge Reservation, Oak Ridge, Tennessee*
- UCOR-4719, *Blocking and Bracing Guide, East Tennessee Technology Park, Oak Ridge, Tennessee*
- DIR-UCOR-510, *Evaluations of Commercial Treatment, Storage, Disposal, and Recycle Facilities (TSDRFs)*
- PPD-EH-1400, *Integrated Safety Management System Program Description*

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- PROC-HR-0306, *Drug and Alcohol Control*
- PROC-TC-0702, *Training Program*
- PROC-PCM-1170, *Control of Subject Matter Area Designations and Subject Matter Expert Assignments*

ROLES AND RESPONSIBILITIES

The roles and responsibilities described in this section support the successful execution of the WM Program.

A. Waste Programs and Disposition Manager

The WM Programs and Disposition Manager provides the resources, leadership, and management to implement the WM objectives within this program.

B. Transportation Program Manager

The Transportation Program Manager provides the resources and guidance to implement the WM transportation objectives within this program.

C. Waste Generator Services and Project Integration Manager

The Waste Generator Services and Project Integration Manager provides the WM Program training, project resource coordination, and WM Generator services integration for UCOR Projects supporting WM Program implementation and compliance including the approvals for WM personnel to make waste determinations on behalf of UCOR.

D. Waste Generator

1. Ensures that the ORR Waste Certification Program Plan is properly implemented at generator sites.
2. Ensures there is adequate waste characterization to support waste storage, treatment, and or disposal.
3. Identifies all wastes to be generated and materials to be managed for recycle to project Waste Coordinators for evaluation of proper characterization, packaging, handling, staging/storage, and disposition under UCOR waste management program plans and procedures, including wastes and materials for recycle to be generated by onsite subcontractors/vendors.
4. Certifies that waste shipped to EMWMF meets the WAC for the facility.
5. Establishes Waste Management Areas (WMAs) at the project site and ensures compliance with the facilities authorization basis.
6. Ensures that training and qualifications requirements are met for individuals directly responsible for generating, characterizing, packaging, and certifying wastes.

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7. Ensures that waste containers are in good condition and empty prior to use.
8. Ensures that waste containers are maintained in a manner to prevent external contamination.
9. Handles and packages waste in a safe manner and in accordance with applicable regulations and the applicable profile/WAC.
10. Reports non-compliant issues and activities, and takes appropriate corrective actions.
11. Ensures waste containers (loaded or unloaded) are protected from the effects of weather (if changes in environmental conditions will adversely affect the waste container or contents) prior to transport.
12. Maintains waste traceability.

E. Waste Coordinator

The Waste Coordinator (WC) is the technical lead for Waste Programs at their assigned facilities/projects and acts as the point of contact for the waste generators. The WC:

1. Coordinates resources with the generator for the management of waste.
2. Acts as single point of contact for waste identification/characterization of planned waste.
3. Identifies discrete waste streams for segregation by waste profile.
4. Ensures that wastes and materials identified for recycle (including Property Management) are managed in accordance with requirements in DIR-UCOR-510 if not otherwise dispositioned at a DOE onsite or offsite TSDRF or specifically exempted from DIR-UCOR-510.
5. Ensures that the CERCLA pedigree of waste and materials identified for recycle are specifically identified to allow for proper implementation of the UCOR waste disposal hierarchy and DIR-UCOR-510.
6. Links the waste stream to a disposition profile in eMwaste.
7. Assists in waste generation forecasting.
8. Participates in facility audits and/or walkdowns of WMAs.
9. Manages all WM activities within the WMAs.
10. Manages CERCLA WMAs.
11. Notifies the Facility Manager of planned changes in waste-related operations.

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12. Obtains concurrence from the Facility Manager for all WMA activities that could affect the authorization basis or adversely affect the functionality of a facility.
13. Ensures WM personnel work within WMAs is performed safely, per approved procedures, within the safety documentation envelope, and in accordance with work control processes specified by facility management.
14. Notifies both the WM Programs and Disposition Manager and the Facility Manager in the event of an incident or emergency.
15. Provides day-to-day oversight of assigned WM Waste Technical Support Specialists (WTSSs).
16. Ensures Program Waste Certification requirements are implemented.
17. Ensures Waste Certification requirements required by the NNSS are implemented.
18. Ensures Waste Certification requirements (i.e., package contains no anomalous or prohibited items) are implemented.
19. Assists or completes and submits the land disposal restriction (LDR) notifications to the Waste Disposition Specialist (WDS).
20. Performs self-assessments and routine inspections of WM activities and facilities.
21. Ensures WM waste management activities are included in the facility plan of the week (POW)/plan of the day (POD) and ensures WM is represented at the facility POW/POD meetings.
22. Reviews work packages for waste generation and WM activities.
23. Approves hazardous waste determinations.
24. Notifies the Chemical Services Coordinator when chemical inventory is shipped for disposal.
25. Oversees the timely development of generator waste characterization documentation.
26. Enables effective coordination/communications regarding program requirements.

F. Waste Technical Support Specialist

The WTSS ensures that all activities in the waste characterization/management process are complete and accurate for waste assigned to them by the WC. The WTSS:

1. Assists the generator with waste characterization, using process knowledge or sampling and analysis, to support the development of the waste determination and compliance with applicable WACs.

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2. Assists the generator in determining the sampling and analysis requirements to support the final waste determination and characterization.
3. Reviews the analytical data from sampling and analysis activities.
4. Assists with the development of the hazardous waste determination.
5. Initiates new or revised disposition profiles, as needed, prior to waste generation, whenever possible.
6. Applies the hazardous waste determination to specific containers of waste.
7. Coordinates with the WC and WDS personnel to ensure WNPDP is fully evaluated, documented, and approved prior to generation.
8. Updates characterization data in eMWaste as soon as practicable.
9. Assists or completes the LDR notifications to the WDS.
10. Reviews the disposition profiles in eMWaste (a second, independent review is conducted by WDS) to ensure the container fits within the boundaries of the associated disposition profile.
11. Provides waste characterization information to Waste Packaging Specialist (WPS) and Transportation Specialist (TS) personnel for use in the determination of packaging and shipping requirements and for the determination of the proper shipping name (PSN).
12. Coordinates with the TS to ensure the packaging is adequate, a PSN has been assigned to the package, and all packaging closure documentation has been completed; provides information to the WDS, as soon as practicable.
13. Submits waste profile data to the WDS, as soon as practicable, for coordination of waste disposal.

G. Waste Packaging Specialist

The WPS is responsible for all activities related to waste containers from obtaining, tracking, loading, closure, and staging/storage until the container is offered for transport. The WPS also verifies that the waste does not include anomalous or prohibited items. This last function may be delegated to project personnel (hereafter referred to as WPS Verifier) for wastes destined to TSDRFs other than NNS.

1. **WHEN** empty containers are delivered to the facility, **THEN** initiates container tracking and control.
2. Verifies package integrity prior to filling.
3. Verifies appropriate package for waste to be containerized.

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4. Verifies package contents meet description in the approved profile.
5. Verifies packaged waste meets the physical WAC.
6. Certifies no anomalous items included in package.
7. Verifies package is not breached and/or damaged and is in a condition to withstand the stresses of loading, handling, stacking, and shipping.
8. Performs inspection, surveillance, and oversight of activities critical to the ORR and NNSS Waste Certification Programs, as requested by the Waste Certification Official (WCO).
9. If so designated by the WCO, performs Waste Package Certification activities in support of waste shipments to the NNSS.
10. Identifies and documents non-conforming conditions and activities, in accordance with UCOR procedures.
11. Tracks container movements and starts the regulatory clock, as prescribed in the WM procedures.
12. Verifies the container is properly configured (e.g., liners, absorbents, gasket).
13. Maintains positive control of waste containers to prevent the introduction of anomalous or prohibited items.
14. Provides oversight of the WPS Verifiers when delegating certification/verification duties to them.
15. Ensures package integrity is sufficient to meet corresponding DOT packaging specification.
16. **WHEN** waste cannot be shipped directly offsite, **THEN** verifies the selection of the appropriate onsite accumulation, staging, and/or storage facility.
17. Assists the generator in moving the waste to accumulation, staging, and/or storage.
18. Ensures the waste is properly managed onsite prior to shipment for treatment and/or disposal.
19. Coordinates with the onsite facility to ensure the waste can be accepted without exceeding the receiving unit's capacity or violating its authorization basis, WAC, or RCRA permit.
20. Certifies EMWMF waste shipments meet the facility WAC by signing a waste certification statement.

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H. Waste Packaging Specialist/Verifier

The Waste Packaging Specialist/Verifier (WPS/V) is the project individual that identifies anomalous or prohibited items, as defined in the waste profile or disposition facility WAC. The WPS/V:

1. Observes loading/packaging operations to verify/ensure no anomalous or prohibited items are added to the package.
2. Documents the absence of prohibited or anomalous items in the package.
3. Provides documentation to the WPS.

I. Waste Disposition Specialist

The WDS is responsible for coordinating and planning compliant treatment and/or disposal of legacy and UCOR-generated wastes at onsite and offsite TSDRF(s). The WDS:

1. Manages disposition profile(s) that are acceptable for shipment to offsite TSDRFs for treatment or disposal.
2. Reviews the waste characterization data and profiles supplied by the WTSS to ensure the waste is appropriately characterized, supports the waste determination, and complies with the applicable WAC.
3. Evaluates the use of non-DOE facilities for treatment or disposal of waste.
4. Ensures the appropriate shipping documents have been submitted and the appropriate information necessary to support the shipment has been documented in eMWaste.
5. Certifies waste verification data to ensure the waste matches the reported physical and chemical characteristics and the TSDF WAC requirements.
6. Certifies, by signing a waste certification statement, that waste shipments meet the WAC of commercial waste facilities.
7. Evaluates the waste against the requirement of the applicable TSDRF WAC.
8. Coordinates with the WC and WTSS to initiate WNPD determinations and finalize the determination for DOE approval.
9. Ensures that any offsite facility that receives CERCLA waste has a current "Offsite Suitability Determination."
10. Ensures that profiles and procurement documents for CERCLA wastes being dispositioned at commercial TSDRFs comply with requirements in DIR-UCOR-510.

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11. Determines if waste meets an approved TSDRF vendor profile; prepares and maintains profile(s), as necessary.
12. Consolidates various waste streams, potentially from several WCs or WTSSs, into a waste shipment, when possible.
13. Reviews packaging requirements specific to the waste being shipped.
14. Coordinates with the TSDRF to ensure that the waste can be accepted and meets the TSDRF WAC.
15. Reviews and approves the assignment of disposition profiles for treatment and/or disposal of wastes.
16. Submits the required forms to the TSDRF.
17. Coordinates the shipping date with the TSDRF, WC, TS, and Waste Tracking and Compliance Specialist (WTCS).
18. Sends the load list and/or load cost list to the waste disposition services group for cost estimating and Work Release approval, as applicable for the waste type.

J. Waste Disposition Technical Staff

The Waste Disposition Technical Staff (WDTS) provides technical support to waste management and disposition activities, including waste characterization, waste determinations, profile development and updates, waste certification, sampling and analysis plans, and waste disposition planning. The WDTS:

1. Assists waste characterization, using process knowledge or sampling and analysis, to support the development of the waste determination and compliance with applicable WACs.
2. Assists with sampling and analysis requirement determinations to support the final waste determination and characterization.
3. Performs technical reviews of analytical data from sampling and analysis activities.
4. Supports hazardous waste determinations using process knowledge and sampling and analysis data.
5. Supports the preparation of new or revised disposition profiles, as needed, prior to waste generation, whenever possible.
6. Supports the technical review of waste data packages and documentation for radiological, Toxic Substances Control Act (TSCA), RCRA, and WAC compliance determinations.

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7. Supports the evaluation of WNPDP determinations as the basis for DOE requests for WNPDP generation authorizations.
8. Evaluates characterization data in eMWaste to support waste disposition planning and profile compliance.
9. Completes and/or reviews LDR notifications to assist the WDS in waste disposition planning and scheduling.
10. Reviews disposition facility profiles to ensure the waste container fits within the boundaries of the disposition profile used for WAC certification.
11. Compiles waste characterization information for WPS and TS personnel use in the determination of packaging and shipping requirements and for determination of the PSN.
12. Assists the WC with data and evaluations for waste shipment scheduling and the TS to ensure the packaging is adequate, a PSN has been assigned to the package, and all packaging closure documentation has been completed; provides information to the WDS, as soon as practicable, in the process.
13. Submits waste profile data to the WDS, as soon as practicable, for coordination of waste disposal.

K. Transportation Specialists

The TS provides technical support to WM personnel in the packaging, labeling, shipping, and transportation of UCOR-generated wastes. The Transportation Program Manager provides functional, regulatory, and technical support to the TS, as needed. The TS:

1. Identifies packaging appropriate for the waste type and physical form.
2. Authorizes reuse of containers per 49 CFR, Transportation.
3. Develops transportation and route plans.
4. Provides waste container certification.
5. Obtains back-up information for each container on the load list to reference during shipment preparation.
6. Obtains “12-Q” ...” numbers (eMWaste Helpdesk) and any other shipment-specific numbers (ORL..., ES-Clive, ES-Bear Creek, etc.).
7. Determines the DOT Basic Description.
8. Prepares the shipping papers (Uniform Hazardous Waste Manifest [UHW], Low-Level Waste Manifest [LLWM], or Bill of Lading [BOL]) in eMWaste.

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9. Determines the marking and labeling for waste packages. Arranges for label application.
10. Provides shipping notifications to Radiological Protection, NMC&A, destination facilities, and others.
11. Creates the shipment in Low-Level Waste Information System for Generators (LWIS-G); prepares the Package Shipment and Disposal Request (PSDR) and barcode stickers in LWIS-G (NNSS only).
12. Obtains peer-review of the shipping papers (all shipments).
13. Obtains WCO review (NNSS only).
14. Coordinates container inspection and loading.
15. Performs HAZTRAK entry, prints confirmation, and e-mails .txt file (NNSS only).
16. Obtains in-bound truck transportation survey.
17. E-mails or faxes key shipping documents to the Plant Shift Superintendent (PSS) (e-mail K2A, fax 576-6261).
18. Performs the final walkdown and completes the required inspection sheets with the WCO (NNSS) and driver.
19. Completes the Shipment Preparation Checklist.
20. Coordinates with Security and Radiological Protection to complete the shipment preparations on the day of shipment.
21. Obtains the outbound truck surveys from Radiological Protection.
22. Obtains LLW Certification Statement and Package Certification Label copies from WCO (NNSS only).
23. Verifies and documents driver's information (i.e., license, medical card).
24. Ensures carrier compliance with the Federal Motor Carrier Safety Regulations (FMCSR).
25. Applies placards and/or PCB markings to the truck, as needed.
26. Sends the notification of shipment departure to NMC&A, as required.
27. Creates the Data Transfer file in eMWaste and imports it into Waste Tracking Management System (WTMS).
28. Submits the permanent file to principal place of business (PPOB).

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L. Waste Tracking and Compliance Specialist

The WTCS provides life-cycle waste data, process, and compliance support to WM and Waste Packaging (WP) personnel in the tracking, management, and disposition of containerized waste. The WTCS:

1. Maintains the waste tracking database systems and helpdesk support areas (eMWaste and WTMS) for the waste process.
2. Assigns access and roles within eMWaste and WTMS for new users, provides training for users in all modules of eMWaste and WTMS shipping and reports. (Requests for Disposal [RFD] creation, shipments, etc.).
3. Performs additions/updates to reference tables within the application.
4. Maintains waste tracking data and monitors data quality consistent with the quality objectives of waste data to support waste certification and disposition.
5. Creates and maintains the profiles in the eMWaste database.
6. Creates and maintains templates used by generators for preparing RFD forms (UCN-2109).
7. Creates and maintains disposition profiles for use in the Shipment Module.
8. Monitors compliance with the staging and/or storage limits promulgated by DOE Order 435.1, RCRA, and TSCA.
9. Produces comparison reports of generated waste, per RFD, to the profile listed.
10. Creates and runs various container reports including ad-hoc performance reporting (QA, Acceptance, Inventory, Shipment, etc.).
11. Initiates Web Reports and/or Alerts, as needed, to support regulatory requirements or user needs.
12. Tracks empty containers and data to support waste packaging activities.
13. Generates barcode labels for new containers and facility placards for barcode locations.
14. Coordinates the change log process to support configuration management of waste tracking data in the database.
15. Enters repackage information into eMWaste.
16. Processes barcode transactions in eMWaste (Movements, Inventories, and Pickup/Accepts).

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17. Supports the development and maintenance of waste shipment schedules.
18. Releases approved waste loads to the WC.
19. Coordinates the requests for shipments issued by the WC and waste load review and approval by the WDS.
20. Provides waste data to support safety basis compliance systems.
21. Maintains the Facility Acceptance Testing – Container Analysis Tool (FAT-CAT), a facility limit system for stored waste.
22. Maintains the NiceLabel barcode label program.
23. Identifies and supports the development and maintenance of burden of proof statements for RCRA-regulated waste.
24. Enters closure information (i.e., Certificate of Disposition [COD]), develops evidence files to support COD-based waste traceability to disposal, prepares and processes requests for waste tracking closures, and supports the archiving of life-cycle waste management quality records.
25. Maintains waste traceability to life-cycle requirements and compliance information and documentation.
26. Maintains and distributes waste information to support waste program and waste process performance objectives and metrics.
27. Supports the maintenance and availability of quality records in electronic format generated and used in the disposition process.
28. Supports compliance agreements between DOE and TDEC on stored waste.
29. Supports the scope and performance commitments between DOE and the WMO.
30. Prepares requirement documents, develops and coordinates application changes for eMWaste, FAT-CAT, and WTMS to support the organization in accordance with Information Technology (IT) Software Quality Assurance (SQA) procedures.
31. Maintains the Project Baseline Summary (PBS) listing, Work Breakdown Structure (WBS) Projects, Subprojects, and Unique IDs for waste reporting.
32. Maintains waste volumetric actuals to support DOE O 435.1 compliance, DOE's Waste Information Management System (WIMS), Baseline Low-Level Waste and Material Disposition Data (BLDD), and DOE-HQ IPABS to meet DOE and state requirements.
33. Creates and maintains various pick-lists and profiles in WTMS.

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34. Updates and adds TSDR information in WTMS.
35. Enters disposition information for ORR Landfill shipments in WTMS.
36. Set-up Radio Frequency Identification Transportation System (RFITS) / Waste Lot information in WTMS for paperless shipments to EMWMF.
37. Provide data exports to support PPOB 49 CFR 172.201 requirement.

M. WM Waste Certification Official and Alternate Waste Certification Official

The WCO and Alternate Waste Certification Official (AWCO) provide waste certification for waste destined for disposal to the NNSS. The WCO and AWCO:

1. Ensure that the UCOR Waste Certification Program Plan (WCPP) is conducted in a safe, compliant, and cost-effective manner.
2. Issue, control, and maintain waste certification procedures and program documents.
3. Interface with generator waste certification personnel on certification matters.
4. Review waste generator and project certification procedures, as necessary, to ensure program compliance.
5. Ensure that waste certification implementing procedures comply with this Plan.
6. Confirm that minimum training requirements for certification activities performed under this Plan are established.
7. Ensure that appropriate audits of the WCPP are performed by an appropriate QA organization, and that any resulting corrective actions are completed in accordance with approved corrective action plans.
8. Ensure that appropriate surveillances and oversight of waste certification activities are performed.
9. Designate and document status of AWCOs and WPS, if applicable.
10. Notify the NNSS/Radioactive Waste Acceptance Program (RWAP) in writing of any changes to the Waste Certification Personnel List, Waste Certification Plan, NNSS WAC Implementation Crosswalk, and waste profiles.
11. Notify NNSS/RWAP in writing prior to implementation, any critical process and/or procedure changes to the approved certification program. Examples of critical process and/or procedures include, but are not limited to, changes in inspection frequency, changes in characterization methodology, and changes in training requirements.

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12. Perform a documented annual review of NNSS-approved waste profiles, based on the current revision date of each profile to ensure characterization data, waste stream information, and referenced procedures are correct.
13. Perform an annual review of the NNSS Implementation Crosswalk (NIC) to ensure all procedures, processes, and methods referenced in the NIC are current. Upon completion of the review, the WCO will sign and submit the current NIC to the Radioactive Waste Acceptance Program (RWAP) Manager.
14. Document the review and concurrence of procedures (including revisions) critical to waste certification activities (i.e., generation, packaging, inspection, characterization, and certification).
15. Review and approve technical specifications, drawings, and submitted documentation in support of container procurement activities.
16. Ensure organizational independence from the waste generator is maintained and access to a level of management having sufficient authority and organizational freedom, if necessary, to ensure compliance with the LLW program is provided.
17. Certify, by signing a Waste Certification Statement, that waste shipments meet the waste acceptance criteria of the NNSS.

N. WP Subject Matter Expert

The Subject Matter Expert (SME) is the technical point of contact for Waste Programs and provides program implementation support. The SME:

1. Serves as the UCOR Waste Management SME, per PROC-PCM-1170, *Control of Subject Matter Area Designations and Subject Matter Expert Assignments*.
2. Supports projects concerning waste management issues (i.e., waste characterization, waste profile development, work planning).
3. Reviews waste management issues from assessments, conditions adverse to quality (CAQ) and nonconformance reports (NCR) for appropriate action and trends.
4. Provides technical direction in the area of waste management to deployed Waste Programs personnel.
5. Reviews subcontractor key waste management personnel qualifications and provides input on acceptability.
6. Reviews or designates a reviewer to status subcontractor waste management plan submittals.
7. Supports Waste Program activities for hazard identification and mitigation processes by reviewing applicable work control documents.

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8. Assists technical personnel in chemical processes, chemical and container interactions, and radiochemistry processes for wastes generated as a result of UCOR projects.
9. Maintains the requirements roll-down as a crosswalk to the implementing UCOR document from the Contract Requirements Documents for the Waste Programs portion of the WM Safety Management Program (SMP).
10. Acts as the organization's technical point of contact for Waste Programs personnel for all waste management questions including: waste generation, treatment/storage, process knowledge and data collection, evaluation, waste minimization, and waste determination.
11. Conducts reviews of the WM Program to verify effectiveness and adequate implementation and compliance.
12. Leads assessments to demonstrate WM Program compliance with applicable requirements.
13. Serves as the UCOR interpretative authority and primary point of contact for technical issues related to all facets of WM.
14. Provides guidance and documented interpretations of governing standards and requirements to projects and functions.
15. Conducts and assists in the causal analyses of programmatic issues related to WM.
16. Maintains awareness of improvements in industry technology and determines applicability to UCOR WM activities.

**OTHER SUPPORT
FUNCTIONS**

- A. Sample Coordinator**
 1. Ensures Environmental Services procedures are followed in the collection and processing of needed samples and sample results are forwarded to the WC.
- B. Waste Management Document Center Staff**
 1. Maintains records generated/received by the WMO in accordance with PROC-OS-1001, *Records Management, Including Document Control*.
- C. Project Environmental Compliance & Protection Lead**
 1. Assists with the development of and concurs with waste characterization. Provides environmental compliance support to and oversight of waste management activities on the project site.

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D. Principal Place of Business Staff

1. Maintains the Transportation PPOB for retention of DOT records.

INTERFACES

A. Environmental Programs Support

1. Provides environmental surveillance and compliance monitoring/reporting and integrated environmental sample and analysis management for UCOR.

B. Environment, Safety, Health, and Quality Assurance

1. Provides support to and oversight of all aspects of WM activities.

C. Pollution Prevention Coordinator

1. Provides guidance to reduce wastes and/or toxicity, minimize the consumption of natural and man-made resources, and minimize the impact on the environment.

D. Operations/Facility Management

1. Provides the needed facilities, personnel, and other resources to compliantly package, verify and sample UCOR-generated wastes. Maintains RWMB compliance at the operations level for all facilities, operations, and activities generating radioactive waste.

E. Onsite and Offsite TSDRF

1. Provides treatment and disposal services for UCOR-generated wastes.

F. UCOR Manager of Supply Chain Management

1. Provides support to ensure the applicable Waste Management Program requirements, including DIR-UCOR-510, are properly incorporated into the procurement process, proforma, and other contracting mechanisms involving the generation of wastes and materials for recycle by UCOR subcontractors and vendors.

G. NNSW Waste Certification Official

1. Oversees the NNSW waste certification process and ensures the process complies with the requirements of the NNSW WAC.

H. Safeguards and Security

1. Ensures the safeguards functions are implemented for accountable nuclear materials.

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**PROGRAM
INTERFACE
RESOURCES**

The WM Program interfaces with other UCOR programs to accomplish the program's vision and strategy safely and compliantly. This section identifies the plans, guides, and programs supporting the WM Program.

UCOR Programs

- UCOR-4141, *URS | CH2M Oak Ridge LLC Quality Assurance Program Plan, Oak Ridge, Tennessee*
- POL-UCOR-022, *Compliance Assurance Program*
- PPD-EC-1747, *Environmental Compliance and Protection Program*
- PPD-EC-3194, *Balance of Environmental Regulations Program Description*
- PPD-EC-3253, *National Environmental Policy Act Program Description for URS | CH2M Oak Ridge LLC, Oak Ridge, Tennessee*
- PPD-EH-5614, *Worker Safety and Health Assessment Program*
- PPD-IT-6007, *Software Quality Assurance Program*
- PPD-RP-4000, *Radiation Protection Program Description for URS | CH2M Oak Ridge LLC, Oak Ridge, Tennessee*
- PPD-RP-4002, *UCOR ALARA Performance Goals*
- PPD-TC-0724, *Training and Qualification Program for UCOR Category 2 & 3 Nuclear Facilities*
- PROC-ES-5001, *Oak Ridge Sample Management Office Laboratory Integrated Performance Indicator Program*
- PROC-ETTP-1014, *Security Systems Program*
- PROC-FS-1001, *Integrated Work Control Program*
- PROC-LF-0008, *Waste Verification Program*
- PROC-LF-0010, *Special Waste Approval and Recertification Program*
- PROC-NS-1003, *Nuclear Criticality Safety Program*
- PROC-OS-1003, *Administrative Record Program*
- PROC-PQ-1208, *Supplier Quality Assurance Assessment Program*
- PROC-SE-1315, *Measurement Control Program*
- PROC-TC-0702, *Training Program*

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Attachment A
DEFINITIONS/ACRONYMS
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Acceptance – The process by which UCOR (or its subcontractor) takes possession of waste from a Generator for treatment, storage, and/or disposal. This process ensures that any waste accepted meets applicable waste acceptance criteria.

Analytical results – Non-SW-846 chemical analyses can be used to substantiate process knowledge. For example, an INL laboratory could analyze for certain RCRA metals in a waste using a non-SW-846 atomic absorption methodology. Because this analysis does not conform to EPA-prescribed analyses from SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, current edition, it could only serve as process knowledge information.

ARAR – applicable or relevant and appropriate

AWCO – Alternate Waste Certification Official

BOL – Bill of Lading

CAQ – conditions adverse to quality

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

Certification – A process by which a Waste Generator formally confirms that a given waste or waste stream meets the waste acceptance criteria of the facility to which the Generator intends to transfer waste for treatment, storage or disposal.

CFR – Code of Federal Regulations

CH-MTRU – mixed transuranic waste

CH-TRU – transuranic waste

COD – Certificate of Disposition

D&D – Decontamination and Decommissioning

Declaration – A waste may be declared hazardous even when testing would show that it is not. This can be done purposely, for instance, to ensure the waste is managed with the highest degree of care or to avoid high costs and/or hazards associated with testing. Any waste declared hazardous will be considered hazardous by regulators.

Disposal Authorization Statement – Documentation authorizing operation (or continued operation) of a low-level waste disposal facility resulting from the DOE Headquarters review and acceptance of the facility’s performance assessment, composite analysis, and other information and evaluations. The disposal authorization statement constitutes approval of the performance assessment and composite analysis, authorizes operation of the facility, and includes conditions the disposal facility must meet. (DOE O 435.1)

DOE – U.S. Department of Energy

DOE-ORO – U.S. Department of Energy – Oak Ridge Office

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DOT – U.S. Department of Transportation

EPA – U.S. Environmental Protection Agency

eMWaste – The customizable, multi-faceted commercial off-the-shelf software developed by Attention IT, Inc. for the U.S. Department of Energy Office of Environmental Management (DOE-EM). eMWaste is the core tool used by the company to plan and execute the waste disposition process throughout all cycles of removal. The software is designed to ensure regulatory compliance with applicable requirements contained in Title 40 Code of Federal Regulations (40 CFR), Protection of the Environment; 49 CFR, Transportation; the Resource Conservation and Recovery Act (RCRA); the Toxic Substances Control Act (TSCA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); and DOE Order 435.1, *Radioactive Waste Management*.

eMWaste is the tracking system to support the life-cycle waste management model defined by this program. A baseline system model for the current production version of the eMWaste system has been developed and documented in five volumes. Comprehensive information presenting the eMWaste software requirements, design, validation testing, and operation are documented as follows:

- Volume 1: eMWaste Baseline System Summary and Software Traceability Matrix
- Volume 2: eMWaste Requirements
- Volume 3: eMWaste Design
- Volume 4: eMWaste Testing
- Volume 5: eMWaste Operations Guide

eMWaste is managed as Category C software. Updates to affected volumes will be processed when significant changes to the application are implemented.

EMWMF – Environmental Management Waste Management Facility

ETTP – East Tennessee Technology Park

FAT-CAT – Facility Acceptance Testing – Container Analysis Tool

FMCSR – Federal Motor Carrier Safety Regulations

Generator – The person or entity producing a waste that requires treatment, storage, and/or disposal. The Generator may be either UCOR, another DOE prime contractor on the Oak Ridge Reservation (ORR), or a direct or tiered subcontractor to a DOE prime contractor.

Hazardous Waste – Waste as defined in the *Resource Conservation and Recovery Act*, as amended and codified under 40 CFR Part 261.

HAZTRAK – A computer program supplied by NNSS and used by UCOR personnel to track waste shipments.

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Industrial waste (IW) – Solid waste generated by industrial processes and manufacturing; industrial waste is not radioactive, hazardous or mixed waste.

IPABS – Integrated Planning, Accountability, and Budgeting System

IT – Information Technology

LDR – land disposal restriction

LGWO – Liquid and Gaseous Waste Operations

Low-level waste (LLW) – Low-level radioactive waste is radioactive waste that is not high-level radioactive waste, spent nuclear fuel, transuranic waste, byproduct material (as defined in section 11e. (2) of the Atomic Energy Act of 1954, as amended) or naturally occurring radioactive material. (DOE O 435.1)

LLWM – Low-Level Waste Manifest

LWIS-G – Low-Level Waste Information System for Generators

Mixed low-level waste (MLLW) – LLW determined to contain both a hazardous component subject to RCRA, as amended, and a radioactive component subject to the Atomic Energy Act, as amended, that is to be managed in accordance with the requirements of RCRA and DOE Order 435.1, *Radioactive Waste Management*. MLLW also includes LLW containing polychlorinated biphenyls (PCBs), asbestos, or other such regulated toxic components managed in accordance with the Toxic Substances Control Act (TSCA).

Mixed transuranic waste – Waste that meets the definition of transuranic waste and contains a hazardous component subject to the Resource Conservation and Recovery Act (RCRA).

MVSWSF – Melton Valley Solid Waste Storage Facilities

NCR – nonconformance reports

NIC – NNS Implementation Crosswalk

NMC&A – Nuclear Materials Control and Accountability

NNS – Nevada National Security Site

ORNL – Oak Ridge National Laboratory

ORR – Oak Ridge Reservation

ORR Industrial Landfills – Y-12 landfills

PCB – Polychlorinated biphenyl

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POD – plan of the day

POW – plan of the week

PPOB – Principal place of business

Process Knowledge – Knowledge (also referred to as acceptable knowledge) that is used in addition to or in place of sampling and analysis to determine if a waste is RCRA hazardous and to classify it in order to meet treatment, storage, and disposal requirements. Process knowledge must be adequate to ensure the characterization is sufficient to withstand scientific and legal challenges relative to management of the waste.

Profile – A TSDRF document that summarizes facility-specific waste acceptance requirements for waste streams that are similar in nature, physical and chemical composition, and radionuclide content. A profile consists of a general description of the waste, the physical, chemical, and radiological limitations for acceptance, requirements for characterization and packaging, and any other supporting data necessary to demonstrate compliance with the waste acceptance criteria of the particular onsite or offsite TSDRF. Current profiles are available at the Waste Certification Program link on the UCOR Internal Intranet site.

PSDR – Package Shipment and Disposal Request

PSN – Proper Shipping Name

PSS – Plant Shift Superintendent

QA – Quality Assurance

Radioactive Waste – Waste that is managed for its radioactive content, including solid, liquid, or gaseous material that contains radioactive nuclides regulated under the Atomic Energy Act, as amended, and of negligible economic value considering costs of recovery.

RWAP – Radioactive Waste Acceptance Program

Radioactive Waste Management Basis (RWMB) – The radioactive waste management controls that are applied to DOE facilities, operations, and activities to provide near- and long-term protection of the public, workers, and environment. The radioactive waste management basis consists of controls and analyses, such as facility waste certification programs, facility waste acceptance requirements, low-level waste disposal facility closure plans, performance assessments, composite analyses, and other facility-specific processes, procedures and analyses made to comply with DOE O 435.1 and its Manual. (DOE O 435.1-1)

RCRA – The Resource Conservation and Recovery Act of 1976. This is the law which specifies EPA as the administrator to create and enforce regulations (under Title 40 CFR) related to hazardous waste management.

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Receiving Facility – The onsite or offsite facility to which Waste Packaging will ship waste for treatment, storage, or disposal. These facilities are primarily managed by organizations other than WP and include permitted treatment, storage, and disposal facilities for hazardous waste and mixed low-level waste, as well as treatment, storage, and disposal facilities for low-level waste and industrial waste. Temporary staging areas, largely managed by Waste Management or the generator, are not included in the definition of receiving facility.

RFD – Request for Disposal

Sanitary/Industrial Waste – Waste that is not regulated under RCRA, certain TSCA PCB wastes, and meets radiological free release criteria under DOE Order 5400.5, *Radiation Protection of the Public and the Environment*. This may also include waste that is specifically approved for onsite landfill disposal by Tennessee Department of Environment and Conservation under a Special Waste Request.

SME – Subject Matter Expert

SMP – Safety Management Program

SQA – Software Quality Assurance

STP – Site Treatment Plan

TDEC – Tennessee Department of Environment and Conservation

Transfer – The act of conveying or removing an item from one place to another.

Transportation Specialist (TS) – DOT technical support position responsible for field support and oversight of transportation operations. This person ensures all shipments are performed in compliance with the UCOR Transportation Program requirements.

Transuranic (TRU) waste – Transuranic waste is radioactive waste containing more than 100 nanocuries (3700 becquerels) of alpha-emitting transuranic isotopes with half-lives greater than 20 years, per gram of waste. Excepted from this definition are: (1) high-level radioactive waste; (2) waste that the Secretary of Energy has determined, with the concurrence of the Administrator of the Environmental Protection Agency, does not need the degree of isolation required by the 40 CFR Part 191 disposal regulations; or (3) waste that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61.

TSCA – Toxic Substances Control Act of 1976 (40 CFR Pts. 700-799)

TSDRF – Treatment, Storage, Disposal, and Recycle Facility

UCOR – URS | CH2M Oak Ridge LLC

UHWM – Uniform Hazardous Waste Manifest

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Universal Waste (UW) – Those solid wastes that are designated as universal wastes by Environmental Protection Agency regulations (40 CFR 273).

Waste Acceptance Criteria (WAC) – The requirements, terms and conditions under which a facility will accept waste from a generator for treatment, storage and/or disposal.

Waste Certification Official (WCO) – This position is responsible for ensuring the UCOR Waste Certification Program including, plans, procedures and guidance documents, are available to support waste operations. This person is independent of the projects and is the primary QA contact for the Nevada National Security Site (NNSS) and other waste management activities.

WCPP – Waste Certification Program Plan

Waste Characterization – The identification of waste composition and properties by review of acceptable knowledge (which includes process knowledge) or by non-destructive examination, non-destructive assay, or sampling and analysis, to comply with applicable storage, treatment, handling, transportation, and disposal requirements. (DOE O 435.1)

Waste Container – A receptacle for waste, including any liner or shielding material that is intended to accompany the waste in disposal.

Waste Coordinator (WC) – This is the primary WM contact deployed to a project. The WC is responsible for implementing the requirements of the UCOR Waste Management Program at the generator/project level.

WDS – Waste Disposition Specialist

WDTS – Waste Disposition Technical Staff

Waste Information Form (WIF) – This form documents the waste pre-generation planning, initial process knowledge, and other characterization information including the waste generation process description provided by the generator, and provides WM with the means for a probable waste classification and to document the hazardous waste determination required by 40 CFR 262.11 for waste such that an appropriate disposition path for the waste is developed. The WIF also identifies the potential disposition path(s) for the identified waste streams.

The process knowledge information reported in the WIF characterization of the generated waste for packaging and certification against the waste acceptance requirements of the destination TSDRF. The WIF is used as the basis for requesting approval from DOE to generate waste streams determined to be WNPD during the waste generation and disposition planning process.

WM – Waste Management

WMA – Waste Management Area

WMO – Waste Management Organization

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Waste With No Identified Path To Disposal (WNPD) – Waste that has been characterized to the requirements of existing or authorized disposal sites and has been determined unacceptable due to its nuclear, biological, or chemical characterization. Alternatives for each technical basis for rejection have been identified to assure all disposal opportunities have been addressed. Nontechnical barriers to disposal will not be accepted as justification for a WNPD determination.

Waste streams with no identified path to disposal shall be generated only in accordance with approved conditions which, at a minimum, shall address: (a) programmatic need to generate the waste; (b) characteristics and issues preventing the disposal of the waste; (c) safe storage of the waste until disposal can be achieved; and (d) activities and plans for achieving final disposal of the waste.

WP – Waste Packaging

Waste Packaging Specialist (WPS) – Functional position responsible for providing packaging and oversight for projects engaged in waste operations. The WPS performs certification in accordance with this procedure.

WPS/V – WPS/Verifier

Waste Stream Worksheet (WSW) – This form is used to identify and specify waste streams and authorizes waste generation. Information contained in the WSW is an aid to the waste generator for use in Work Package development.

Waste Type – This refers to the general regulatory classification of a population of waste. These categories are determined in accordance with applicable state and federal agency regulations, orders, and policies. General waste type examples include, but are not limited to: radioactive waste, RCRA hazardous waste, mixed waste, regulated asbestos waste, construction/demolition waste. Specific waste type examples are: transuranic radioactive waste, F-, K-, P- and U-listed RCRA hazardous wastes, category I non-friable asbestos waste, and wooden construction debris.

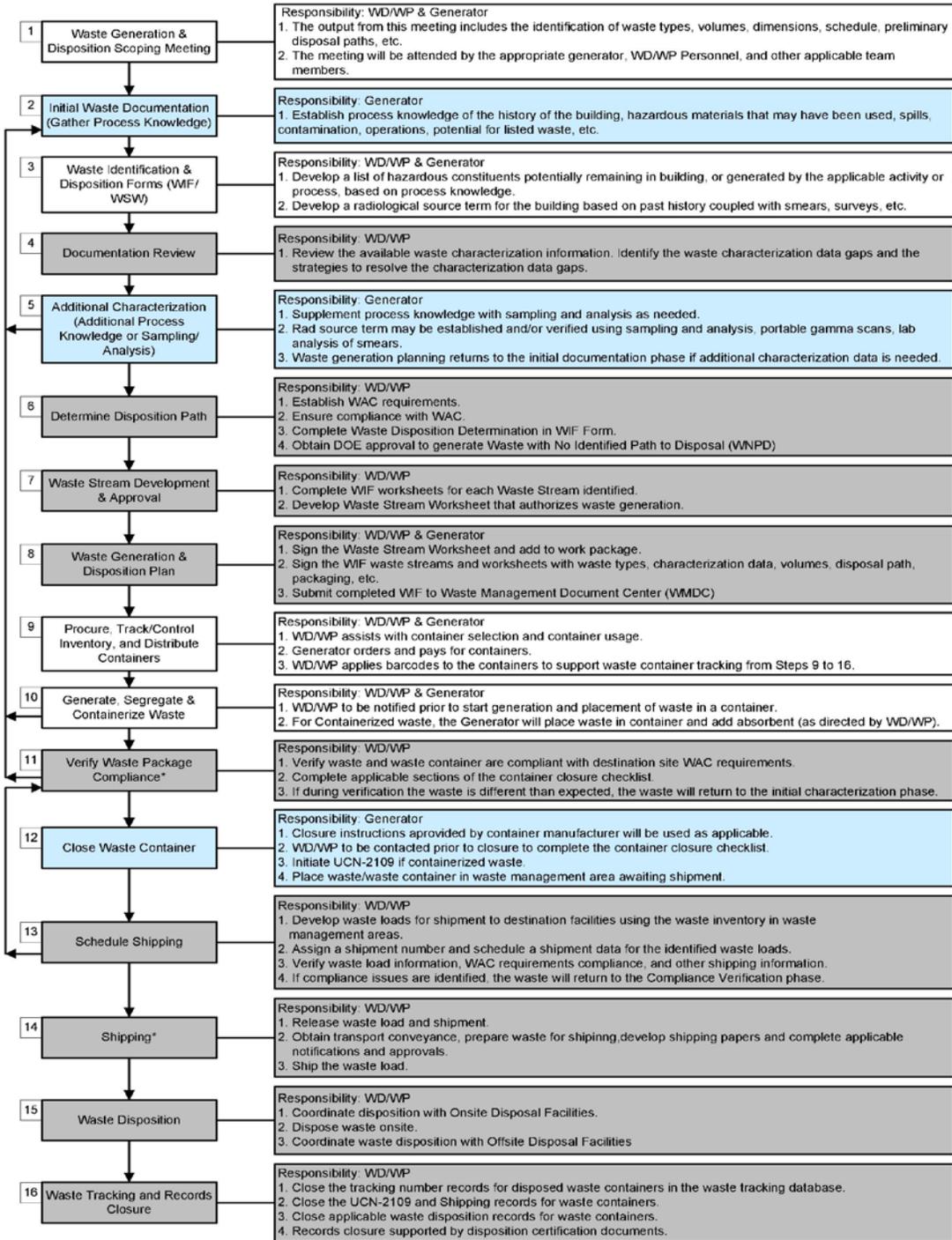
WTCS – Waste Tracking and Compliance Specialist

WTMS – Waste Transportation Management System – WTMS supports all projects on the Oak Ridge Reservation that ship to the onsite disposal facilities. UCOR projects are required to enter waste shipments into WTMS via manual entry, file uploads, or Radio Frequency Identification Transportation System (RFITS). WTMS manages the tracking of Signed Return Documents, Certificate of Disposals, and is a web based tool that provides a central source for waste shipment reporting. WTMS is a Category C – Business Impacting Software.

WTSS – Waste Technical Support Specialist

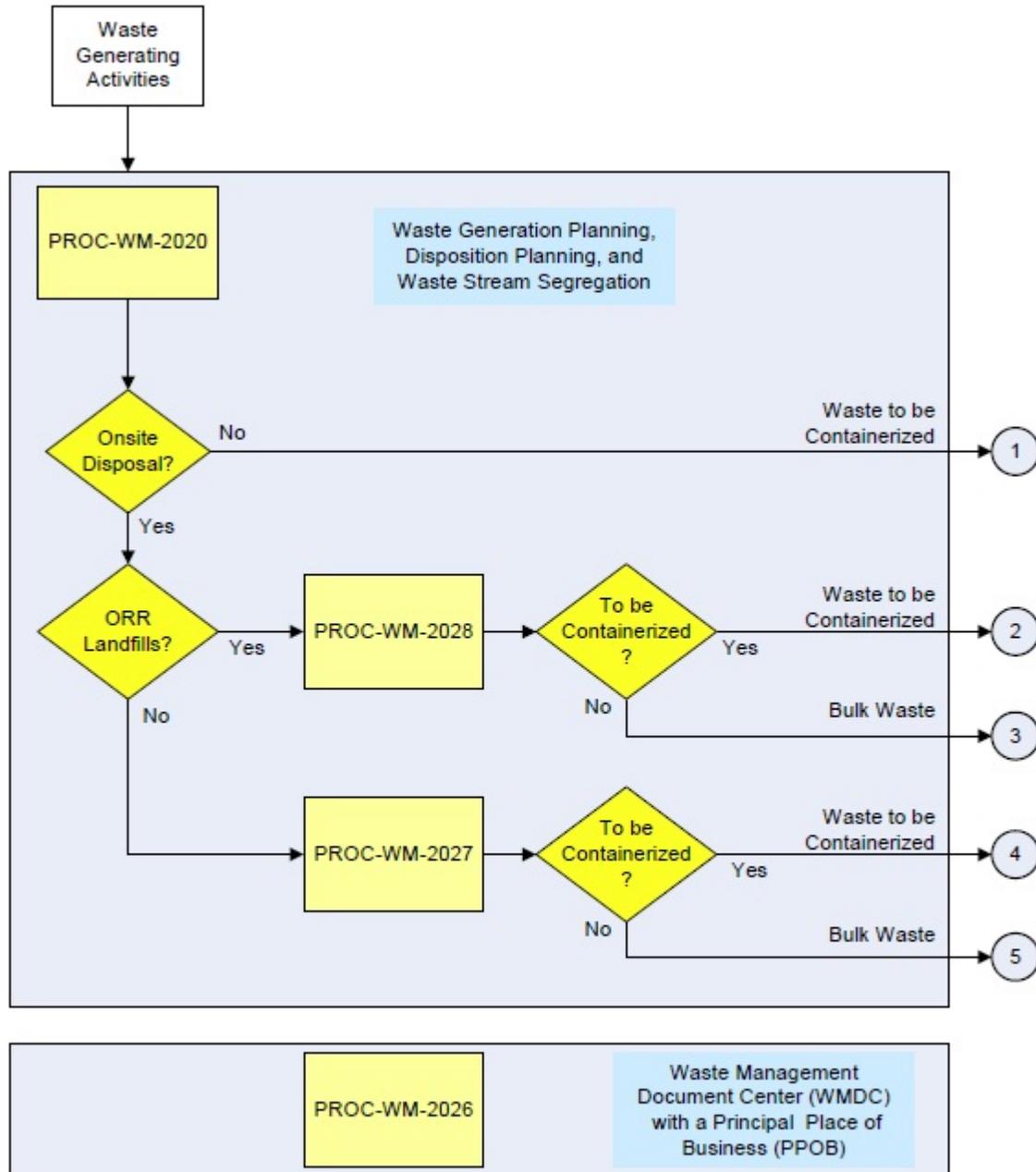
Y-12 – Y-12 National Security Complex

Attachment B LIFE-CYCLE WASTE MANAGEMENT PROCESS Page 1 of 1



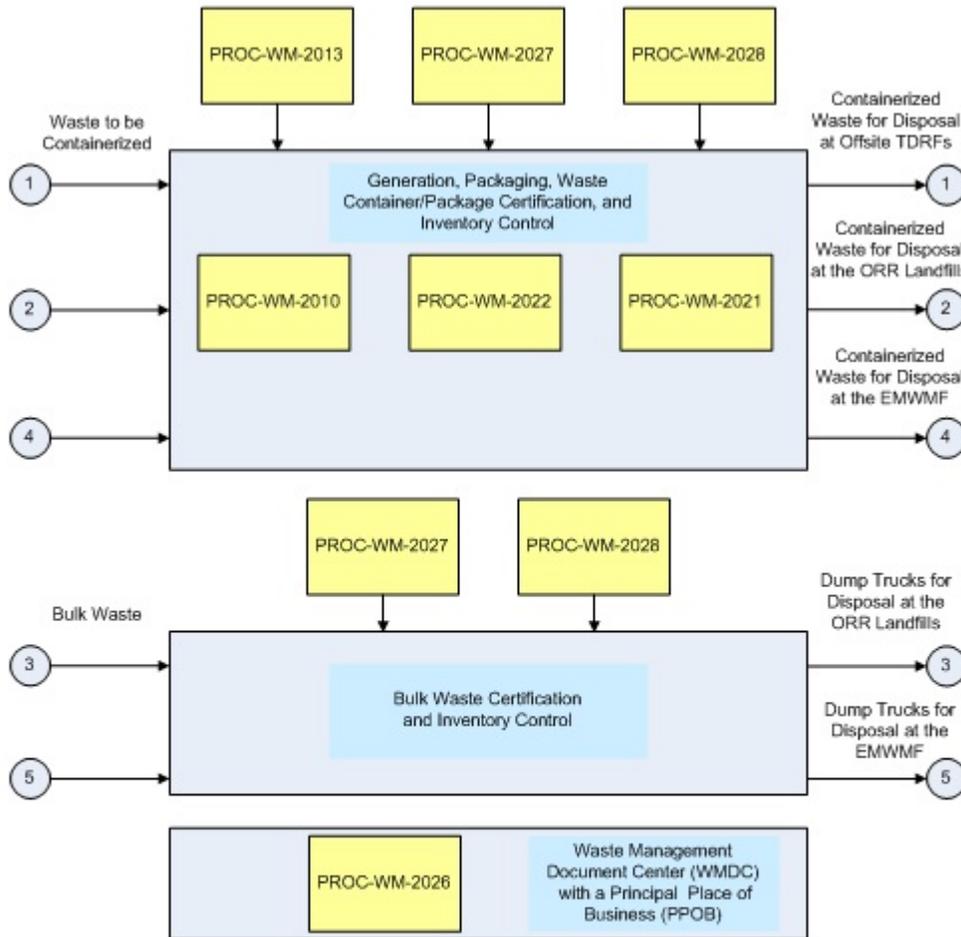
Key
Blue – Generator
Grey – WD/WP
Black/White – Generator & WD/WP

Attachment C
UCOR WASTE MANAGEMENT PROGRAM LIFE-CYCLE PROCESS
Phase I: Waste Generation and Disposition Planning
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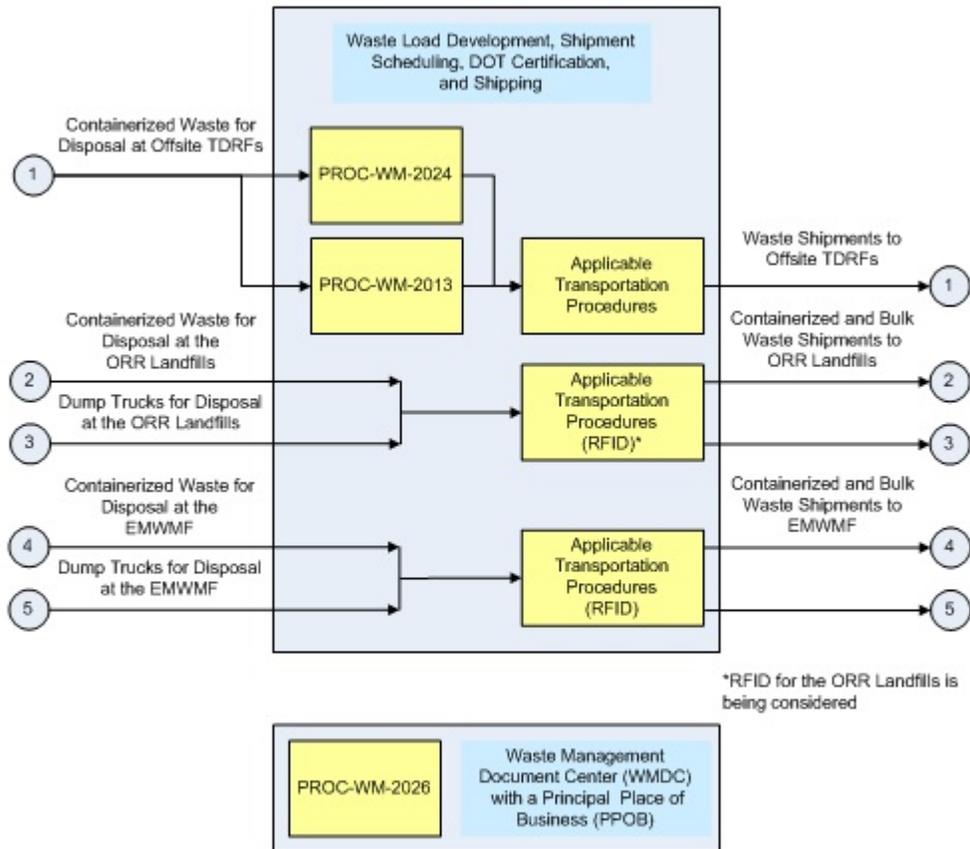
PROC-WM-2020, Pre-Job Planning for Waste Generating Activities
PROC-WM-2026, Compiling, Distributing and Managing Waste Management Program Records
PROC-WM-2027, Waste Generators' Guide to Disposing of Waste at the EMWMF
PROC-WM-2028, Waste Generators' Guide to Disposing of Waste at the ORR Landfills

Attachment C
UCOR WASTE MANAGEMENT PROGRAM LIFE-CYCLE PROCESS
Phase II: Generation, Packaging, Waste/Package Certification, and Inventory Control
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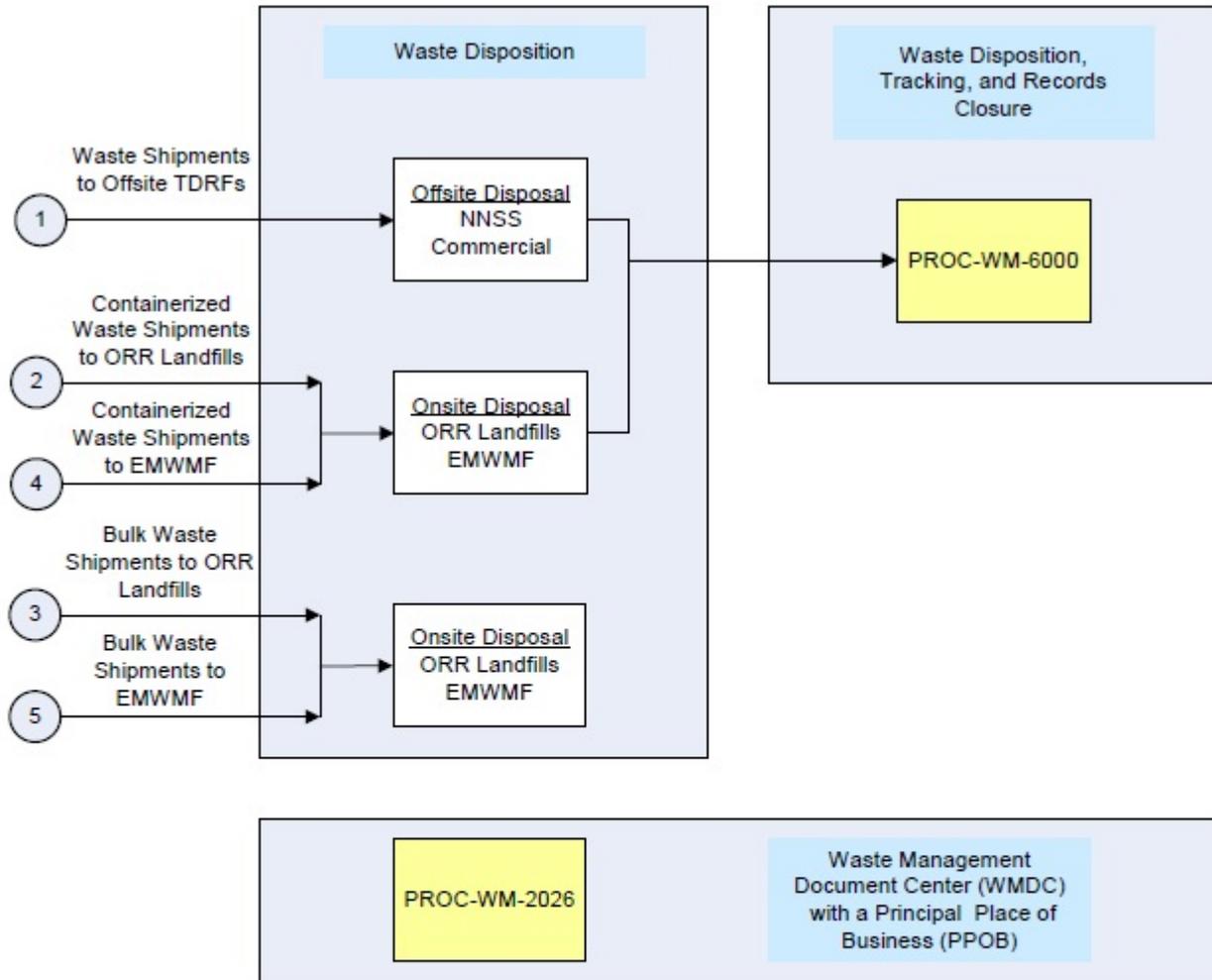
PROC-WM-2010, Waste Container Management
 PROC-WM-2013, Certification of Waste for Disposal at the Nevada National Security Site
 PROC-WM-2021, UCOR Waste Management Areas
 PROC-WM-2022, Preparation of the UCN-2109 Data Package
 PROC-WM-2026, Compiling, Distributing and Managing Waste Management Program Records
 PROC-WM-2027, Waste Generators' Guide to Disposing of Waste at the EMWMF
 PROC-WM-2028, Waste Generators' Guide to Disposing of Waste at the ORR Landfills

Attachment C
UCOR WASTE MANAGEMENT PROGRAM LIFE-CYCLE PROCESS
Phase III: Waste Load Development, Shipment Scheduling, DOT Certification and Shipping
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PROC-WM-2024, Identifying and Tracking Waste Containers for Shipment to Non-UCOR Facilities
 PROC-WM-2026, Compiling, Distributing and Managing Waste Management Program Records

Attachment C
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Phase IV: Waste Disposition and Records Closure
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PROC-WM-2026, Compiling, Distributing and Managing Waste Management Program Records
PROC-WM-6000, Waste Tracking and Records Closure

Attachment D
WASTE MANAGEMENT DISPOSITION HIERARCHY
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