WORKING COPY

VERIF. DATE: _____

INTIALS: _____

CP3-WM-0016 FRev. 1B	TITLE: Waste Handling and Storage in DOE Waste Storage Facilities	Page 1 of 38

DOCUMENT CATEGORY: ☐ Administrative ☒ Technical

LEVEL OF USE: ☐ Information Level ☒ Reference Level ☐ Continuous Use

FUNCTIONAL AREA: Waste Facility Operations **SUBJECT MATTER AREA:** Waste Facility Operations	**SUBJECT MATTER EXPERT**: Mike Zeiss, Waste Facility Operations Manager
NUCLEAR SAFETY REVIEW DOCUMENTATION: FRNP-18-0304-S	**APPROVED BY/DATE** (Signature on file): Mike Zeiss, Waste Facility Operations Manager, 6/21/18
REQUIRED REVIEW DATE (or expiration date for temporary change): 1/8/21	**EFFECTIVE DATE**: 08/27/2018

REVISION/CHANGE LOG

Revision/Change Letter	Description of Changes	Pages Affected	Date of Revision/Change
FR0	Procedure bluesheet	All	10/19/17
FR1	Initial Release	All	1/8/18
FR1A	Address CA-000697, AI-0001211. Add CP2-SS-3000 and CP3-NM-3007 as Use References. Add Steps 5.4, 5.5, 6.14.26, and 6.14.27.	4-5, 7, 19, 23	5/22/18
FR1B	Add DAC-CIE-FA-1200-0002 as Use Reference.Update Step 6.14.17 to point to performing linearity check. Add Step 6.14.27. Add Section 6.20, Weight Determination.	5, 17-18, & 21-22	6/21/18

TABLE OF CONTENTS

1.0 PURPOSE AND SCOPE 4
1.1 Purpose 4
1.2 Scope 4
2.0 REFERENCES 4
2.1 Use References 4
2.2 Source References 5
3.0 COMMITMENTS 5
4.0 PRECAUTIONS AND LIMITATIONS 6
4.1 Precautions 6
4.2 Limitations 7
5.0 PREREQUISITES 7
6.0 INSTRUCTIONS 7
6.1 Facility Requirements 7
6.2 Waste Acceptance Criteria 7
6.3 Classified Waste Requirements 8
6.4 Chemically Reactive (Incompatible Corrosives and Oxidizers) Waste Requirements 9
6.5 Ignitable Waste Requirements 10
6.6 Reactive/Pyrophoric Waste Requirements 11
6.7 Liquid or Solid Waste Requirements 11
6.8 PCB Waste Requirements 12
6.9 PCB Detectable Waste Requirements 13
6.10 Potentially Pressurized Waste Requirements 14
6.11 Fissionable Waste Material Requirements 15
6.12 Approvals and Notifications 15
6.13 Performance Activities 15
6.14 Acceptance of Waste 16
6.15 Spill Response and Cleanup 18
6.16 Periodic Inspection of Waste Storage Areas 20
6.17 Decontamination of PCB Containers 20
6.18 Post-Performance Work Activities 20
6.19 Monthly Inventory of Waste Containers 21
6.20 Weight Determination 21
7.0 ACCEPTANCE CRITERIA 22
8.0 POST PERFORMANCE WORK ACTIVITIES 22
9.0 RECORDS 22
Appendix A – Acronyms/Definitions 23
Appendix B – Acceptance Waste Types for Each DOE Storage Facility 28
Appendix C –C-733 Unique Operating Requirements 30
Appendix D – C-746-Q Unique Operating Requirements 31
Appendix E – C-752-A Unique Operating Requirements 32
Appendix F – Acid Label (CP-21048 or Equivalent) 33
Appendix F – Base Label (CP-21049 or Equivalent) 34
Appendix H – Oxidizer Label (CP-21052 or Equivalent) 35
Appendix I – Flammable Label (CP-21050 or Equivalent) 36

Appendix J – Combustible Label (CP-21051 or Equivalent) 37
Appendix K – Implementation of the Contingency Plan 38

1.0 PURPOSE AND SCOPE

1.1 Purpose

The purpose of this procedure is to implement the management of Resource Conservation and Recovery Act (RCRA), Toxic Substances Control Act (TSCA), Low-Level Waste (LLW), and mixed waste program requirements to provide regulatory compliance and ensure personnel safety while performing activities in U.S. Department of Energy (DOE) waste storage facilities.

This procedure does not alleviate requirements to comply with the permits and regulations such as DOE Order 435.1, Chg. 1, Radioactive Waste Management, 40 *Code of Federal Regulations* (*CFR*) 761 Storage for Disposal [polychlorinated biphenyl (PCB) wastes]), and the Hazardous Waste Facility Permit (KY8-890-008-982).

In order to preserve personnel health and safety and/or prevent environmental spills, these activities shall be conducted in a manner to implement the Integrated Safety Management System methodology and the Environmental Management System

1.2 Scope

This procedure applies to RCRA hazardous, PCB, mixed, low-level, and non-hazardous waste materials in various waste storage facilities operated by Four Rivers Nuclear Partnership, LLC (FRNP) or subcontractors for DOE at the DOE-owned Paducah Gaseous Diffusion Plant (PGDP) Site.

Waste that is **NOT** exempted according to CP2-WM-0006, *Facility Safety Basis Inventory Control Plan*, is covered by this procedure and CP3-WM-0015, *Management of Fissile Waste Materials*. Waste containing less than or equal to 1.0 weight percent ^{235}U is Nuclear Criticality Safety (NCS) exempt (exempt from all NCS controls).

Technical Safety Requirements (TSR) requirements apply to the C-746-Q/Q1 facility. Unless otherwise stated, the steps may not be limited to C-746-Q/Q1 and may apply to other facilities.

Exclusion:

This procedure does not apply to the following temporary waste staging / accumulation areas (TWSA) in C-754, C-754-A, and C-757 that are not used for waste storage or only have TWSAs that are managed under CP3-WM-1037, *Generation and Temporary Storage of Waste Materials*:

- Satellite Accumulation Areas,
- Generator Staging Areas, and
- 90 Day Accumulation Areas

2.0 REFERENCES

2.1 Use References

- CP2-SS-3000, *Nuclear Materials Control and Accountability Plan for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky* Chg A

- CP2-WM-0006, *Facility Safety Basis Inventory Control Plan for Paducah Waste Storage Facilities*
- CP2-WM-0011, *Waste Acceptance Criteria for the Treatment, Storage, and Disposal Facilities at the Paducah U.S. Department of Energy Site*
- CP2-WM-0661, *Transportation Safety Document for On-Site Transport*
- CP3-ES-0003, *Environmental Incident Reporting*
- CP3-NM-3002, *Intraplant Shipments and Receipts* Chg A
- CP3-NM-3007, *Managing and Documenting Termination of Safeguards Nuclear Materials*
- CP3-SI-0001 *Site Interface*
- CP3-WM-0015, *Management of Fissile Waste Materials*
- CP3-WM-0023, *Inspection of DOE Waste Storage Facilities and Tanks*
- CP3-WM-1017, *Safe Handling and Opening of Sealed Containers*
- CP3-WM-1036, *Nuclear Criticality Safety Implementation Requirements for Handling and Storage of Fissile and Potentially Fissile Waste*
- CP3-WM-1037, *Generation and Temporary Storage of Waste Materials*
- CP3-WM-2110, *Waste Container Handling, Overpacking, and Transportation Paducah Gaseous Diffusion Plant, Paducah, Kentucky*
- CP3-WM-3015, *Waste Packaging*
- DAC-CIE-FA1200-0002, *Paducah Gaseous Diffusion Plant Deactivation and Remediation Working Standards for Interim Checks of NMC&A Related Platform Scales* Chg B

2.2 Source References

- 10 *CFR* 835, *Occupational Radiation Protection*
- 40 *CFR* Parts 260, 261, 262, 263, 264, 265, 266, and 270, Environmental Protection Agency
- 40 *CFR* 761, *Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions*
- 401 *Kentucky Administrative Record* (*KAR*) Chapters 30-38
- CP2-NS-1031, *Nuclear Criticality Safety Program*
- KY/B-258, Attachment V, *PGDP Hazardous Waste Management Permit*

3.0 COMMITMENTS

CP1-NS-3001, Technical Safety Requirements for the U.S. Department of Energy Paducah Site Deactivation Project

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Precautions

4.1.1 Ignitable wastes with a flash point below 100 degrees Fahrenheit (°F) [Flammable Waste] must be stored in C-733.

4.1.2 Ignitable wastes with a flash point at or above 100°F and at or below 140°F [Combustible Wastes] may be stored in C-733 or C-752-A.

4.1.3 <**CP1-NS-3001, 5.6.11.1**> No ignitable waste may be stored in C-746-Q/Q1.

4.1.4 Reactive/pyrophoric wastes have the following characteristics:

- normally unstable and readily undergo violent change without detonating
- react violently with water
- form potentially explosive mixtures with water
- generate toxic gases, vapors or fumes in the presence of water in a quantity sufficient to present a danger to human health or the environment
- cyanide or sulfide bearing wastes which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment
- capable of detonation or explosive reaction if exposed to a strong initiating source or if heated under confinement
- are readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure

4.1.5 Drums that appear to be in acceptable condition may still contain sufficient pressure to inflict injury.

4.1.6 Sealed waste containers have the potential to be pressurized (stored energy) and may contain hazardous and/or radioactive materials in solid and/or liquid form. A pressurized container may constitute various types of chemical and/or physical threats to the worker and/or the environment.

4.1.7 Unless a sealed container is known to be vented, consider all sealed containers to be potentially pressurized, particularly those containing volatile organics, aqueous/organic mixtures, low or high pH solutions, biological wastes or sludge.

4.1.8 A container may be pressurized for one or more reasons. Gases may be generated by: reaction of content materials with each other; reaction of the contents with the container; vapor phases of contents; decomposition of contents; thermal expansion (sealed in cold area-moved to warmer area) of air or other gases; or a combination of the above causes.

4.2 Limitations

4.2.1 All operational restrictions, if any, which may be placed on any DOE Waste Storage Facility, must be followed.

4.2.2 Material shall be moved into, within, or out of any DOE waste storage facility **ONLY** with prior approval from Waste Management (Exception: Declared emergency condition).

5.0 PREREQUISITES

5.1 Problems found during an inspection that represent an immediate threat to life, health, or the environment require notification to the Plant Shift Superintendent (PSS), the Facility Manager, and the Frontline Supervisor (FLS).

5.2 Environmental occurrences and spills require notification to PSS and Regulatory Compliance.

5.3 Spill control and emergency equipment defined in the RCRA Contingency Plan (Part G of the Hazardous Waste Facility Permit) shall be readily available for emergency use. Chg A

5.4 All Nuclear Material Control and Accountability (NMC&A) accountable material will be managed in the appropriate material balance area (MBA) according to CP2-SS-3000, *Nuclear Materials Control and Accountability Plan for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky* and CP3-NM-3007, *Managing and Documenting Termination of Safeguards Nuclear Materials.*

5.5 All NMC&A accountable material will be transferred and moved in the appropriate MBA according to CP3-NM-3002, *Intraplant Shipments and Receipts.* Chg A

6.0 INSTRUCTIONS

6.1 Facility Requirements

<u>Operator</u>

Contact the Facility Manager immediately if the fire sprinkler systems have been declared "impaired" by Fire Services.

6.2 Waste Acceptance Criteria

<u>Operator</u>

NOTE: All waste packages must remain closed unless actively adding or removing waste from the container.

6.2.1 Verify that all wastes to be stored in DOE waste storage facilities meet applicable waste acceptance criteria (WAC) as listed in CP2-WM-0011, *Waste Acceptance Criteria for the Treatment, Storage, and Disposal Facilities at the Paducah U.S. Department of Energy Site*.

6.2.2 Segregate waste by waste stream and waste type (such as, LLW, PCB, or hazardous waste). Refer to CP2-WM-0011 for packaging requirements by waste type.

6.2.3 Package all wastes in containers that are in good condition, made of materials compatible with the waste, properly labeled, and capable of being stored on pallets.

RCT

6.2.4 Verify that transferable surface contamination on the exterior of any waste container is less than 1,000 disintegrations per minute (dpm) for 100 square centimeters (cm^2) beta/gamma and 20 dpm/100 cm^2 alpha (transuranic) or 200 dpm/100 cm^2 (modified transuranic) when waste is being removed from Airborne Radiation Areas, High Contamination Areas, or Contamination Areas.

Operator

6.2.5 Mark **and** label all waste containers in accordance with CP2-WM-0011 and CP3-WM-3015, *Waste Packaging*.

6.2.6 Package all wastes in containers meeting or exceeding U. S. Department of Transportation (DOT) requirements or in other containers specifically approved by Waste Management.

6.2.7 Handle **and** transport waste containers in accordance with requirements specified in CP2-WM-0661, *Transportation Safety Document for On-Site Transport*, or CP3-WM-2110, *Waste Container Handling, Overpacking, and Transportation* (as applicable).

6.3 Classified Waste Requirements

Operator

6.3.1 Attach a "Confidential-Restricted Data" label (UCN-16934 or equivalent - refer to example in CP2-WM-0011) near other labels to each container of classified wastes.

6.3.2 Store classified waste only in approved storage areas within the secured portion of the Paducah Site.

6.4 Chemically Reactive (Incompatible Corrosives and Oxidizers) Waste Requirements

Operator

NOTES:

The length of storage for strong oxidizers shall be minimized to the extent possible. Factors to be considered to determine an acceptable length of storage include: type of oxidizer, physical state, concentration, type of packaging, and age of packaging.

All corrosives with pH ≤ 2 or > 12.5 must be stored directly on Underwriter's Laboratory (UL) Listed corrosion resistant grating that has Engineering approval, wooden pallets, or be stored on metal pallets covered with corrosion resistant material that prevents waste from coming in contact with the pallet.

6.4.1 Store incompatible wastes in separate containers and keep them separated from other wastes by a dike, berm wall, or other device. (Refer to U. S. Environmental Protection Agency (EPA) document EPA-600/2-080-076 that defines incompatible wastes).

6.4.2 Label containers of acidic waste (pH of 2.0 or below) with "acid" labels (CP-21048 or equivalent - refer to example in Appendix F) prior to storage.

6.4.3 Attach "base" labels (CP-21049 or equivalent - refer to example in Attachment G) to containers of basic/caustic waste (pH of 12.5 or above) prior to storage.

NOTE:

Corrosive wastes and oxidizers must be stored in separate areas with separate dykes or where spilled materials cannot make contact.

6.4.4 Store corrosive wastes (acidic and basic, EPA waste code D002), RCRA reactive wastes (EPA waste code D003), and oxidizers in separate containment from each other and keep them separated from other wastes.

6.4.5 Attach an "oxidizer" label (CP-21052 or equivalent - refer to example in Attachment H) to containers of waste designated as oxidizers prior to storage.

6.4.6 Store oxidizers at a minimum distance of 15 feet from any flammable or combustible material (refer to section 6.5 below for other limitations related to flammable/ignitable wastes).

6.5 Ignitable Waste Requirements

Operator

WARNING

Ignitable wastes with a flash point below 100 degrees Fahrenheit (°F) [Flammable Waste] must be stored in C-733.

Ignitable wastes with a flash point at or above 100°F and at or below 140°F [Combustible Wastes] may be stored in C-733 or C-752-A.

<**CP1-NS-3001, 5.6.11.1**> No ignitable waste may be stored in C-746-Q/Q1.

NOTE:

Ignitable waste must be stored in accordance with the Hazardous Waste Facility Permit.

6.5.1 Apply a "flammable" label (CP-21050 or equivalent - refer to example in Attachment I) to any container of ignitable waste that has a flash point below 100 °F prior to placing in storage.

6.5.2 Apply a "combustible" label (CP-21051 or equivalent - refer to example in Appendix K) to any container of ignitable waste that has a flash point at or above 100 °F and at or below 140 °F prior to placing in storage.

6.5.3 Leave all non-intrinsic electrical devices (i.e., two-way radios, cellular telephones, and pagers) outside flammable waste storage facilities, unless cleared by Industrial Hygiene (IH) monitoring, should a vapor or spill of flammable waste be identified.

6.5.4 Use only non-sparking tools and equipment when working with flammable and ignitable waste.

6.6 Reactive/Pyrophoric Waste Requirements

Operator

WARNING

Reactive/pyrophoric wastes have the following characteristics:

- normally unstable and readily undergo violent change without detonating
- react violently with water
- form potentially explosive mixtures with water
- generate toxic gases, vapors or fumes in the presence of water in a quantity sufficient to present a danger to human health or the environment
- cyanide or sulfide bearing wastes which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment
- capable of detonation or explosive reaction if exposed to a strong initiating source or if heated under confinement
- are readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure

NOTE:

C-733 and C-752-A are permitted for storage of reactive wastes.

Appropriately separate reactive wastes.

6.7 Liquid or Solid Waste Requirements

Operator

6.7.1 Ensure adequate headspace is maintained in waste containers to meet the requirements of CP2-WM-0011.

6.7.2 Verify containers of solid waste have no free liquids present.

6.7.3 Physically segregate mixed waste containers from low-level waste containers at C-733, C-752-A, and C-746-Q.

6.8 PCB Waste Requirements

Operator

NOTE:

Facilities utilized for storage of PCB wastes must meet the restrictions of 40 *CFR* 761.65. Preparation of PCB transformers (500 parts per million (ppm) and greater PCBs), PCB-contaminated transformers (50 to 499 ppm PCB), and other PCB liquid-filled equipment for waste storage is described in sections 6.8.1 through 6.8.5.

6.8.1 Drain fluid from transformers and other waste items into appropriate containers, if necessary.

6.8.2 Plug **and** close all openings, or containerize the carcass.

Waste Engineer/Field Engineer

6.8.3 Document the manufacturer's information, usually on the nameplate, to include: manufacturer, make/model/type, serial number, size, volume, weight of carcass.

6.8.4 Initiate a form CP2-WM-0011-F02, *Request for Disposal* (RFD), in accordance with CP2-WM-0011 to Waste Management for the waste containers of fluid and the drained waste items.

Operator

6.8.5 Segregate fluids containing less than 50 ppm PCBs from fluids containing greater than or equal to 50 ppm PCBs.

NOTE:

Samples of cable or wire insulation do not need to be analyzed for characterization if the PCB composition for the insulation was established by previous sample analytical results for cable or wire of the same brand or if the PCB composition for the insulation has been provided by the manufacturer.

6.8.6 Characterize all surplus and waste cable and wiring prior to recycling or disposing.

NOTE:

Preparation of small capacitors and fluorescent light ballasts for waste storage is described in **Steps 6.8.7** through **6.8.9.**

6.8.7 Treat all fluorescent light ballasts as containing PCBs unless they are marked "No PCBs" or have been sampled and verified to be less than 50 ppm.

6.8.8 Manage all leaking PCB light ballasts as PCB waste for storage and disposal under 40 *CFR* 761.

6.8.9 Segregate leaking from non-leaking PCB light ballasts and small capacitors.

NOTES:

If waste item is not known to contain PCBs, but is sampled and discovered to contain PCBs equal to or greater than 50 ppm, then use the date the analytical data was approved as the date-to-storage applied to the waste.

Preparation of large capacitors (both high and low voltage) for waste storage is described in **Steps 6.8.10** through **6.8.16**.

6.8.10 Mark capacitors with PCB M_L labels (UCN-17272b – refer to CP2-WM-0011) at time of removal (if not already marked).

6.8.11 Mark uncontainerized capacitors with date-to-storage at the time of removal for storage for disposal.

6.8.12 Containerize one or more capacitors in a container as physical size allows.

6.8.13 Place in container with insulators up.

6.8.14 Support items with padding or bracing to prevent shifting during transport.

6.8.15 **If** leaking, add enough absorbent to absorb 100% of the remaining capacity.

6.8.16 Document the manufacturer's information, usually on the nameplate, to include: manufacturer, make/model/type, serial number, size, volume, weight of carcass.

NOTE:

Personal protective equipment (PPE) can be visually inspected for signs of contamination and only the contaminated portions need to be disposed of as PCB waste.

6.8.17 Ensure spill cleanup debris, media used to extinguish fires involving PCB items (equipment, waste, etc.), debris (PPE, rags, etc.) generated from handling, sampling, laboratory analyses, decontamination activities, and decontamination/cleaning solutions are all handled as PCB waste unless specifically exempted by TSCA regulations.

6.9 PCB Detectable Waste Requirements

Operator

If PCB-detectable wastes are to be stored in a facility, **then** ensure the waste is controlled for the following aspects:

- Tracking
- Packaging
- Identifying
- Characterizing
- Protecting from the weather to the best extent possible

- Providing secondary containment for liquids
- Inspecting for leaks

6.10 Potentially Pressurized Waste Requirements

FLS

> **WARNING:**
>
> Drums that appear to be in acceptable condition may still contain sufficient pressure to inflict injury.
>
> Sealed waste containers have the potential to be pressurized (stored energy) and may contain hazardous and/or radioactive materials in solid and/or liquid form. A pressurized container may constitute various types of chemical and/or physical threats to the worker and/or the environment.
>
> Unless a sealed container is known to be vented, consider all sealed containers to be potentially pressurized, particularly those containing volatile organics, aqueous/organic mixtures, low or high pH solutions, biological wastes or sludge.
>
> A container may be pressurized for one or more reasons. Gases may be generated by: reaction of content materials with each other; reaction of the contents with the container; vapor phases of contents; decomposition of contents; thermal expansion (sealed in cold area-moved to warmer area) of air or other gases; or a combination of the above causes.

6.10.1 Identify the contents of any compressed gas cylinder before storing the cylinder in a waste storage area.

6.10.2 Store materials that have the potential to generate gas pressure due to decay, in approved containers capable of sustaining structural damage or are equipped with an approved pressure relief device.

6.10.3 Equip containers of pressurized RCRA ignitable waste with vents that are Factory Mutual or UL listed.

Waste Engineer

6.10.4 Verify Kentucky Department of Waste Management approval prior to equipping containers with pressure relief devices, especially those containing RCRA wastes.

FLS

6.10.5 Follow the requirements of CP3-WM-1017, *Safe Handling and Opening of Sealed Containers*.

6.10.6 Contact Fire Services Department, if necessary, for assistance in penetrating drums for pressure relief.

6.11 Fissionable Waste Material Requirements

Operator

NOTE: Fissionable waste material is defined in Appendix A.

Handle **and** store all fissionable waste material in accordance with this procedure as well as CP3-WM-0015 for waste controlled by NCSE-RM-FISSMAT-0015 and CP3-WM-1036 for all other fissile/potentially fissile waste.

6.12 Approvals and Notifications

FLS

6.12.1 Notify other affected personnel of activities and movements of material using guidelines in CP3-SI-0001, *Site Interface.*

6.12.2 **If** a work activity is determined to potentially pose a hazard or safety concern that is not otherwise covered by postings, procedures, or instructions, **then** notify the supervisor and/or safety before proceeding.

6.12.3 Limit work any time conditions exist such that personnel health and safety may be endangered and/or the environment may be adversely affected.

6.13 Performance Activities

FLS

6.13.1 Refer to CP2-WM-0011 for characterization, containerization, marking/labeling, and general requirements for storing waste in DOE Waste Storage Facilities.

6.13.2 **If** needed, initiate **and** process a work control package according to CP2-SM-1000, *Activity Level Work Planning and Control Program,* for work to be performed, if needed.

6.13.3 Ensure the following items are available for use and are in good condition:

- Applicable PPE for a specific task;
- Applicable tools for a specific task;
- DOT-approved containers;
- Drum liners;
- Stickers, labels, and tags used to identify waste;
- Permanent black pens and marking pens;
- Forms and checklists required for a specific task

6.14 Acceptance of Waste

All Personnel

NOTES:

Prior to accepting any waste, refer to the applicable waste requirements sections and Appendix B, *Waste Acceptance Types*, of this procedure.

The following are prohibited wastes and shall not be accepted:

- -Unknown or unidentified wastes;
- -Any waste deemed unacceptable by DOE – basis for this determination will be such items as insufficient information, safety considerations, or lack of disposal method considerations; and
- -Any waste not generated by DOE.

6.14.1 For waste in temporary storage areas, follow guidelines in CP3-WM-1037, *Generation and Temporary Storage of Waste.*

6.14.2 Complete a RFD form (CP2-WM-0011-F02) in accordance with requirements in the current revision of CP2-WM-0011 to identify all known information about the waste (e.g., physical state, source, type of waste, analytical and/or radiological data, possible contaminants) that is scheduled for storage in DOE Waste Storage Facilities.

6.14.3 **If** the EPA code changes for any of the waste on the RFD, **then** a new RFD must be written for the container(s) that were changed from the original determination.

6.14.4 **If** a change in EPA codes applies to all of the containers on the RFD, **then** a new RFD is not required.

Waste Engineer

NOTE:

Justification for a change in characterization attached to the RFD is acceptable documentation for acceptance of the waste.

6.14.5 Review the RFD form to ensure all required information is present.

6.14.6 **If** information is missing or incorrect on the RFD, **then** contact the waste generator to resolve discrepancy.

FLS

6.14.7 Review the RFD and schedule work activities for the operators.

Operator

6.14.8 Follow CP2-WM-0661 or CP3-WM-2110 (as applicable), for transporting of containers from one facility to another.

FLS

6.14.9 **If** a transport vehicle is loaded with PCB containers that contain more than 45 kg (99 lbs) of liquid PCBs at concentrations equal to or greater than 50 ppm **or** is loaded with one or more PCB transformers, **then** mark the transport vehicle on all four sides (front, rear, and two sides) with the PCB M_L label.

Operator

6.14.10 Verify that the facility/location destination shown on the RFD is appropriate for the type of waste and that approval of waste has been given in accordance with CP2-WM-0006, *Facility Safety Basis Inventory Control Plan for Paducah Waste Storage Facilities*.

6.14.11 Compare the information on the container with the information on the RFD (verify proper labeling of container, labeling is consistent with RFD, adequate/accurate waste description, etc.).

6.14.12 **If** a discrepancy exists between the container information and the RFD information, **then** notify the FLS.

6.14.13 **If** the container does not meet Waste Management waste acceptance criteria, **then** notify the FLS.

Waste Engineer

6.14.14 **If** notified of a discrepancy, **then** contact the waste generator to have the discrepancy resolved or the waste repackaged before the waste may be accepted into DOE waste storage.

Operator

6.14.15 Verify marking and labeling per CP2-WM-0011.

6.14.16 Apply a barcode label to the container and record on the container log sheet(s).

6.14.17 Perform linearity check of scale for NMC&A material in accordance with Section **6.20.** Chg B

6.14.18 Weigh the container **and** record the weight both on the container and on the container log sheet(s).

6.14.19 Place waste containers in storage areas as designated by FLS utilizing space as efficiently as possible while ensuring adequate aisle space between rows of containers.

NOTE:

Separation may be achieved by placing LLW containers in a separate row, diked area, or other containment device (e.g. pan) from containers of mixed waste.

6.14.20 Physically separate mixed waste containers from LLW containers at RCRA Storage Facilities C-733, C-752-A, and C-746-Q.

6.14.21 Store incompatible wastes in separate containers and keep them separated from other wastes by a dike, berm wall, distance, or other device as appropriate.

6.14.22 Position each waste container so that label(s) face toward the aisle for easy visibility.

6.14.23 If needed, return the completed RFD and the work control package to the FLS.

FLS

6.14.24 **If** needed, verify that all work and approval signatures in the RFD and the work control package have been completed.

6.14.25 Sign **and** date the Supervisor section the work control package to indicate work has been "completed."

6.14.26 Return the completed RFD and the work control package, if needed, to the appropriate Operator or designee.

6.14.27 Ensure NMC&A safeguarded materials are physically separated from non-accountable materials or materials for which safeguards have been terminated. Chg B

6.14.28 Verify all NMC&A transfer paper work has been completed.

6.14.29 **If** NMC&A transfer paper work was not completed by the MBA Custodian, **then** forward NMC&A transfer paperwork to the MBA Custodian for completion.

6.15 Spill Response and Cleanup

FLS/Field Engineer

6.15.1 Maintain spill control and emergency equipment in each facility in accordance with the RCRA Contingency Plan and/or approved procedures.

All Personnel

NOTE:

Spill response is described in **Steps 6.15.2** through **6.15.22**.

6.15.2 Implement appropriate work evacuation/response actions and notify the FLS and PSS.

FLS

6.15.3 Notify the Regulatory Compliance organization in accordance with CP3-ES-0003, *Environmental Incident Reporting*.

6.15.4 As required, notify the PSS to implement the Contingency Plan in Appendix G of the permit.

Operators/FLS

6.15.5 Contact Radiation Protection in case of spills containing radioactive material.

6.15.6 Immediately report any spill or leak that poses a serious threat (impact on health and safety of personnel and/or to the environment) to the Paducah PSS, the Facility Manager, PAD Safety Advocate, and the FLS.

All Personnel

NOTE:

Spills outside of a building or secondary containment are considered serious and must be reported to the PSS and Regulatory Compliance

Unless otherwise directed by the PSS, the steps for spill cleanup are as described in steps **6.15.7** through **6.15.22**.

6.15.7 **If** the material contains PCBs, **then** refer for guidance related to PCB spills in CP4-WM-0034, *PCB Spill Management*.

6.15.8 Identify any known potential hazards.

6.15.9 Obtain guidance for spill response from IH and/or Regulatory Compliance personnel.

Operators

6.15.10 Don appropriate PPE as directed by FLS.

6.15.11 Obtain NCS approval of the recovery plan prior to collection of liquid released that contains 235U greater than or equal to 1.0 weight percent.

6.15.12 **If** the quantity of liquid released in a spill is greater than 55 gallons, **then** assemble the portable pump, hose, connections, and the standby container **and** use portable pump to transfer the spill into the standby container.

NOTE:

Two 1200-gallon tanks are available for response to large spills.

6.15.13 For all spills greater than 55 gallons, notify the PSS to implement the Contingency Plan defined in Part G of the permit.

6.15.14 **If** the quantity of liquid released in a spill is less than 55 gallons, **or** pump transfer is complete, **then** spread absorbent material over the spill or remaining residue.

6.15.15 **If** the spilled liquid contains PCBs, **then** pump PCB liquids into a new container.

6.15.16 **If** the quantity of liquid released in a spill is **NOT** less than 55 gallons, **then** repack the leaking drum into an over-pack.

6.15.17 Pick up the spilled material/absorbent mixture using a broom and scoop shovel.

FLS/Waste Engineer

6.15.18 Obtain Authorization Basis approval from the Facility Manager prior to the generation of any new waste container in a facility.

Operator

6.15.19 Place spilled mixture into a DOT-approved plastic-lined container.

6.15.20 **If** the spilled material contains PCBs, **then** place the broom and scoop shovel into storage identified as PCB-dedicated equipment.

6.15.21 **If** the spilled material does **NOT** contain PCBs, **then** place the broom and scoop shovel into non-PCB spill equipment storage.

6.15.22 Package, mark, label, etc. new container in accordance with CP2-WM-0011.

6.16 Periodic Inspection of Waste Storage Areas

Facility Manager

Conduct inspections of waste storage facilities in accordance with CP3-WM-0023, *Inspection of DOE Waste Storage Facilities and Tanks*.

6.17 Decontamination of PCB Containers

Operators

6.17.1 Flush containers and other items that have come in direct contact with material of 50 ppm or greater PCB concentration, as prescribed in 40 *CFR* 761.79 and the TSCA Federal Facilities Compliance Agreement.

6.17.2 Rinse all items that have come in contact with PCB-detectable material as specified above.

Waste Engineer

6.17.3 Verify that the container(s) or item(s) meet the decontamination standard of < 10 µg/100 cm^2 as outlined in 40 *CFR* 761.30(u).

6.18 Post-Performance Work Activities

All Employees

6.18.1 Follow posted radiological control precautions when exiting a waste storage facility.

Operators

6.18.2 **If** work is completed in temporary diked areas, **then** ensure dike is securely closed, flagging/rope replaced, etc.

6.18.3 Maintain good housekeeping by storing equipment and disposing of debris promptly and properly.

FLS

6.18.4 Conduct a post-job briefing with the operators to discuss any problems encountered and to solicit ideas for continuous improvement from the operators.

6.18.5 Resolve all outstanding issues to prevent recurrence of any problems in future tasks, and implement any applicable ideas for improvements.

6.18.6 Ensure applicable paperwork is completed and returned to Waste Management promptly.

6.19 Monthly Inventory of Waste Containers

FLS

6.19.1 Obtain from Database Management a current inventory spreadsheet of containers for each waste storage facility.

Operators

6.19.2 Verify the containers in storage to the containers listed on the spreadsheet.

6.19.3 **If** there are discrepancies, **then** note the differences on the spreadsheet.

6.19.4 **If** work is completed, **then** return spreadsheet to FLS.

FLS

6.19.5 Return inventory spreadsheet to Database Management for updates to the inventory database.

6.20 Weight Determination

FLS/Operator

6.20.1 Before weighing drums, ensure scale is acceptable for use.

Chg B

A. Confirm scale is in working order and appropriate for weighing NMC&A materials.

B. Confirm scale calibration is current

C. Confirm test weight and scales are free of any materials that could affect certified weight.

D. Zero the scale before weighing test weights

E. Perform a linearity check by weighing test weights, recording data on CP3-WM-2100-F05, "Waste Management Scales and Balances Test Weight Report" and calculating difference.

F. Obtain warning and alarm limits from DAC-CIE-FA1200-0002, *Paducah Gaseous Diffusion Plant Deactivation and Remediation Working Standards for Interim Checks of NMC&A Related Platform Scales*. Chg B

G. **If** weights do not exceed warning limits, **then** proceed to weigh drums.

H. **If** either weight exceeds warning limits, **but** does not exceed alarm limits, **then** recheck the offending weight(s) immediately.

I. **If** an offending weight does not exceed warning limits after second check, **then** proceed to weigh drums.

J. **If** an offending weight exceeds warning limits after a second check **or** exceeds an alarm limit at any time, **then** take the scale out of service and initiate calibration/repairs.

6.20.2 After weighing drums, ensure scale is acceptable for use by repeating linearity check steps in **6.20.1**.

7.0 ACCEPTANCE CRITERIA

None

8.0 POST PERFORMANCE WORK ACTIVITIES

None

9.0 RECORDS

9.1 Records Generated

The following records may be generated by this procedure:

CP3-WM-2100-F05, "Waste Management Scales and Balances Test Weight Report" Chg B

Forms are to be completed in accordance with CP3-OP-0024, *Forms Control*.

9.2 Records Disposition

The records are to be maintained in accordance with CP3-RD-0010, *Records Management Process*.

Appendix A – Acronyms/Definitions

ACRONYMS

CFR – Code of Federal Regulations

DOE – U. S. Department of Energy

DOT – U. S. Department of Transportation

EPA – U. S. Environmental Protection Agency

FLS – Frontline Supervisor

FRNP – Four Rivers Nuclear Partnership, LLC

GTCC – Greater Than Class C

IH – Industrial Hygiene

KAR – Kentucky Administrative Record

LLW – Low-Level Waste

NMC&A – Nuclear Material Control and Accountability

Chg A

NCS – Nuclear Criticality Safety

NCSD – Nuclear Criticality Safety Determination

NCSE – Nuclear Criticality Safety Evaluation

PGDP – Paducah Gaseous Diffusion Plant

PPE – personal protective equipment

PSS – Plant Shift Superintendent

RCRA – Resource Conservation and Recovery Act

RCT – Radiological Control Technician

RFD – Request for Disposal

TPD – Training Position Description

TSCA – Toxic Substances Control Act

TSR – Technical Safety Requirement

TWSA – Temporary Waste Staging/Accumulation Areas

Appendix A – Acronyms/Definitions (Continued)

UL – Underwriter's Laboratory

WAC – Waste Acceptance Criteria

DEFINITIONS

Classified Waste - Any item or scrap which due to its composition, structure, or function reveals restricted data or other classified information, either directly or through analysis, in accordance with DOE CG-SS-3 and DOE CG-PGD-5. [CP2-WM-0011]

Capacitor - A device for accumulating and holding a charge of electricity and consisting of conducting surfaces separated by a dielectric. Types of capacitors are as follows:

- **Small Capacitor** - A capacitor that contains less than 1.36 kg (3 lbs) of dielectric fluid.
- **Large High-Voltage Capacitor** - A capacitor that contains 1.36 kg (3 lbs) or more of dielectric fluid and that operates at 2000 volts (ac or dc) or above.
- **Large Low-Voltage Capacitor** - A capacitor that contains 1.36 kg (3 lbs) or more of dielectric fluid and that operates below 2000 volts (ac or dc).

Date-to-Storage - The first date that any PCB or PCB item is removed from service for disposal or the PCB article or item is placed in a container for disposal (whichever is first). This date is marked by the generator on PCB containers and other PCB items that are not containerized. The RFD and any container logs sheets should also have this date noted.

Detectable PCBs - PCBs which are detectable, but exist at a concentration of less than 50 ppm, and not as a result of dilution of a PCB source 50 ppm or greater.

Fissile Waste Material - Fissile Material – In strict terms, fissile or fissionable materials are radio nuclides capable of sustaining a neutron-induced fission chain reaction (for example, ^{233}U, U enriched in ^{235}U, ^{236}Np, ^{239}Pu, ^{241}Pu, ^{242m}Am, ^{243}Cm, ^{245}Cm, ^{247}Cm, ^{249}Cf, and ^{251}Cf). As applied to site operations and for purposes of this procedure, fissile material is:1) uranium material greater than/equal to (≥) 15 grams ^{235}U and enriched to greater than/equal to (≥) 1.0 wt.% ^{235}U; or 2) material containing other fissionable radionuclides capable of sustaining a chain reaction in quantities greater than or equal to 1.6 % of their maximum subcritical mass.

Fluorescent Light Ballast - A device that electrically controls fluorescent light fixtures and that includes a capacitor containing 0.1 kg or less of dielectric.

Hazardous Waste Material/RCRA Hazardous Waste - Any solid, liquid, or contained gaseous material (compressed gas cylinder) which is characteristically hazardous or is a listed hazardous waste as defined by 401 KAR 31, and/or any material which has come in contact with a listed hazardous waste, including spill cleanup residue. [CP2-WM-0011]

Leak or Leaking - Any instance in which a PCB article, PCB container, or PCB equipment has any PCBs on any portion of its external surface.

Appendix A – Acronyms/Definitions (Continued)

Low-Level Radioactive Waste - Waste that contains radioactivity but is not, by definition, high-level waste, transuranic waste, spent nuclear fuel, or byproduct material as defined by DOE Order 435.1, Chg. 1, and does not meet the C-746-U Landfill waste acceptance criteria as defined in 40 *CFR* 268. Low-level waste does not contain hazardous waste as defined in 40 *CFR* 261 or materials regulated under the Toxic Substances Control Act as defined in 40 *CFR* 761 [CP2-WM-0011].

Mixed Waste - Waste containing both radioactive and hazardous components as defined by the Atomic Energy Act and the Resource Conservation and Recovery Act, respectively. (DOE Order 435.1, Chg. 1) [CP2-WM-0011]

NCS Spacing-Exempt Containers - The term used for waste containers that have been characterized and determined to be exempt from spacing controls between each other. These containers must be treated as fissile material in all other respects (e.g., spacing from UH equipment, spacing from other non-spacing exempt fissile material, etc.). These containers shall be labeled and shall not be repackaged without NCS approval.

Nuclear Criticality Safety Exempt Waste - The item or operation has been exempted from NCS requirements. Unless otherwise restricted, containers packaged for shipment in compliance with DOT fissile-exempt criteria are exempt from NCS requirements.

Oxidizer - Any compound that spontaneously evolves oxygen either at room temperature or under slight heating which can react vigorously at ambient temperatures when stored near or in contact with reducing agents or other combustible materials.

PCB Bulk Product Waste - Waste derived from manufactured products containing PCBs in a non-liquid state, at any concentration where the concentration at the time of designation for disposal was equal to or greater than 50 ppm. This includes, but is not limited to: demolition of buildings and man-made structures manufactured, coated, or serviced with PCBs; plastics; preformed or molded rubber parts; applied dried paints; varnishes, waxes, coatings, or sealants; caulking; adhesives; paper; Galbestos; insulation; gaskets; and fluorescent light ballasts containing PCBs in the potting material. [40 CFR 761.3]

PCB Container - Any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCBs or other PCB items and for which the surface(s) has been in direct contact with PCBs.

PCB-Contaminated Electrical Equipment - Any electrical equipment that contains at least 50 ppm PCB but less than 500 ppm PCB. Oil-filled electrical equipment other than circuit breakers, reclosers, and cable for which the PCB concentration is unknown must be assumed to be PCB-contaminated electrical equipment.

PCB Detectable Waste - Any item designated for disposal which contains PCBs in concentration greater than the lower level of detection in the waste matrix and less than 50 ppm. These items must not be contaminated from any PCB source of 50 ppm or greater in concentration. (40 *CFR* 761) [CP2-WM-0011]

Appendix A – Acronyms/Definitions (Continued)

PCB Transformer - An electrical transformer that meets one of the following criteria: (1) contains 500 ppm or greater PCBs, (2) the nameplate indicates that the transformer contains PCB dielectric fluid, (3) the transformer does not have a nameplate and there is no information (such as sample results) available to classify the transformer otherwise, or (4) PCBs at 500 ppm or greater have been added to the transformer and the transformer has not been reclassified.

PCB Waste -Those PCBs and PCB items that are subject to the disposal requirements of the PCB regulations. These are any liquids or solids designated for disposal that contain PCBs of 50 ppm or greater in concentration, unless exempted in 40 *CFR* 761. (Non-porous surfaces with PCBs less than or equal to 10 microgram/100 cm2 is equivalent to less than or equal to 50 ppm and less than or equal to 100 micrograms/100 cm2 is equivalent to less than or equal to 500 ppm. If an item with surface PCB contamination cannot be cleaned to less than or equal to 100 microgram/100 cm2 and the item is designated for disposal, it must be handled as PCB waste.)

Polychlorinated Biphenyl - Any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances that contain such substances. Virtually all PCBs in existence today have been synthetically manufactured. Common trade names for PCBs include:

Aroclor	Askarel	Diaclor	Hyvol	Pyroclor
Aroclor B	Chlorextol	Dykanol	Inerteen	Saf-T-Kuhl
Asbestol	Chlorinol	Elemex	No-Famaol	Sanotherm
Adkarel	Chlorphen	Eucarel	Pyranol	

* Askarel is also the generic name used for nonflammable insulating liquid in transformers and capacitors.

Request for Disposal - A form CP2-WM-0011-F02 used to describe waste, to request waste handling and to track waste generation, storage, disposal, and treatment. Refer to CP2-WM-0011 for an example of the RFD form and attachments.

Responsible Party - The person responsible for the PCB item, facility, or other source of PCBs or his/her designated agent (e.g., shift supervisor, building custodian).

Transuranic Waste - Without regard to source or form, waste that is contaminated with alpha-emitting transuranic radionuclides with half-lives greater than 20 years and concentrations greater than 100 nanocuries/gram at the time of the assay. Heads of Field elements can determine that other alpha contaminated wastes, peculiar to a specific site, must be managed as transuranic waste. (DOE Order 435.1, Chg. 1) [CP2-WM-0011]

Appendix A – Acronyms/Definitions (Continued)

Treatment - Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose; or reduced in volume. (40 *CFR* 260.10) [CP2-WM-0011]

Unique Container Number - A unique number to identify and track each PCB container/item.

Waste Coordinator - A member of the Waste Management Group who has overall responsibility for coordinating activities related to the management of certain types of waste.

Appendix B – Acceptance Waste Types for Each DOE Storage Facility

	C-733	C-746-H3	C-746-Q	C-746-Q1	C-752-A	C-753-A
PCB	Yes	Yes	Yes	No	Yes	Yes
Detectable PCB	Yes	Yes	Yes	No	Yes	Yes
Hazardous (Characteristic and Listed)	Yes	No	Yes	No	Yes	No
Ignitable (D001)	Yes	No	No (12)	No	Yes (1)	No
Corrosive (D002)	Yes (2)	No	Yes (2)	No	Yes (2)	No
Reactive (D003)	Yes (11)	No	Yes (11)	No	Yes (11)	No
Radioactive (LLW)	Yes (8)	Yes (7)	Yes (9)	Yes (7)	Yes (10)	Yes (7)
Transuranic	No	No	Yes	Yes	Yes	No
Fissile	Yes (13)	Yes (13)	Yes (3)	Yes (3)	Yes (13)	Yes (13)
NCS Spacing-Exempt	No	No	No	No	No	No
NCS Exempt	Yes (4)	Yes (4)	Yes	Yes (4)	Yes (4)	Yes (4)
Asbestos	Yes	Yes	Yes	Yes	Yes	Yes
Classified (6)	No	No	Yes (6)	No	Yes (6)	No
Non-Regulated (5)	Yes	Yes	Yes	Yes	Yes	Yes
Sodium Fluoride Trap Mix	Yes Net Wt: 1000 lbs max	Yes Net Wt: 1000 lbs max	Yes Net Wt: 861,000 lbs max (14)	Yes Net Wt: 1000 lbs max	Yes Net Wt: 10,500 lbs max	Yes Net Wt: 1000 lbs max
Waste Water	Yes	Yes	Yes	Yes	Yes	Yes
Sulfuric Acid	Yes Net Wt: 1000 lbs max	Yes Net Wt: 1000 lbs max	Yes Net Wt: 1000 lbs max	No	Yes Net Wt: 1000 lbs max	Yes Net Wt: 1000 lbs max

Appendix B – Acceptance Waste Types for Each DOE Storage Facility (Continued)

Footnotes:

(1) Storage allowed for wastes with a flash point greater than 100°F.

(2) Storage allowed only if wastes are separated from incompatible materials by secondary containment.

(3) Fissile material shall be covered by a NCSE.

(4) Waste containing an enrichment greater than or equal to 1.0 wt. % 235U must be added to the fissile inventory even if the individual container is considered exempt, unless otherwise approved by NCS.

(5) Any waste that is not radioactive, hazardous, PCB-contaminated, or does not contain asbestos.

(6) Classified waste storage only in accordance with approved security plan.

(7) Waste containing greater than 3 Ci/m3 of Tc-99 [Greater than Class C (GTCC)] is NOT allowed for storage.

(8) Waste containing greater than 3 Ci/m3 of Tc-99 (GTCC) is ONLY allowed for storage if the waste is also TSCA-regulated or RCRA-regulated.

(9) No storage restrictions for waste containing greater than 3 Ci/m3 of Tc-99 (GTCC).

(10) Requires FRNP Environmental Compliance approval for waste containing greater than 3 Ci/m3 of Tc-99 (GTCC).

(11) Pyrophoric material is prohibited.

(12) Ignitable waste having a flashpoint less than 140°F shall not be accepted for storage.

(13) These fissile materials shall be covered by a Nuclear Criticality Safety Evaluation (NCSE) or Nuclear Criticality Safety Determination (NCSD) that establishes an inadvertent criticality as an incredible event based solely on quantity, material form, or nature of process.

(14) The combined limit for NaF in C-746-Q and C-746-Q1 is 862,000 lbs and is based on not exceeding PAC-2 consequences.

Appendix C –C-733 Unique Operating Requirements

1. **DO NOT** stack containers that contain ignitable waste in this facility. (Note(s): Containers that hold non-ignitable waste may be double-stacked.)
2. Keep both gates locked when facility is unoccupied.
3. Unlock both gates when facility is occupied.
4. Protect PCB containers from rainfall.
5. Wear hard hats and use fall protection when climbing tank ladders.
6. Store non-waste materials (empty containers, liners, absorbent, etc.) separately from waste containers.
7. Maintain a minimum number of multipurpose fire extinguishers as required by the current RCRA Contingency Plan (2 required).
8. Use only a DS-rated forklift in this facility if a vapor or spill of flammable waste is identified.
9. Use only non-sparking tools and equipment when opening and closing containers.
10. Perform all thermal cutting and welding work under a welding and burning/hot work permit.
11. **DO NOT** enter this facility with ignition sources to prevent ignition of potential flammable vapors. Sources of ignition include, but are not limited to: open flames, lighting, smoking, cutting and welding, frictional heat, spontaneous ignition, chemical reaction, radiant heat, static, mechanical sparks, and electrical sparks (including pagers). Use two-way radios and cellular telephones only outside this facility if a vapor or spill of flammable waste is identified.
12. **DO NOT** open containers containing ignitable liquids within 10 feet of any ignition source.
13. **DO NOT** store non-essential combustibles in this facility.
14. Identify and store oxidizers in a separate containment with a minimum of 15 feet from flammable materials.
15. Identify and store incompatible wastes in separate containments.

Corrosive waste may be stored in the facility only if waste is separated from incompatible materials by secondary containment.

DO NOT accept pyrophoric materials or waste for storage in this facility.

Appendix D – C-746-Q Unique Operating Requirements

1. Follow all Safety Basis Requirements, Technical Safety Requirements (TSRs), and Nuclear Criticality Safety Evaluations (NCSEs) for wastes stored in the fissionable material storage area.
2. Prohibit radio transmissions within 10 feet of the Criticality Accident Alarm System OR whenever organic vapors are present (radio, cellular phone, or pager may serve as an ignition source).
3. Maintain the minimum number of multipurpose fire extinguishers as required by the current RCRA Contingency Plan (8 required).
4. <**CP1-NS-3001, 5.6.11.1**> **DO NOT** store wastes with a flash point < 140 degrees F (RCRA ignitable) in this facility.
5. **DO NOT** store non-essential combustible material in this facility in accordance with CP3-WM-3023, *Control of Combustibles and Ignition Sources at Paducah C-746-Q Hazardous and Low-Level Waste Storage Facility*.
6. Restrict stacking of RCRA wastes to only two (2) pallets in height. (Note(s): The stack height of the wastes is limited to 145 inches.)
7. Protect the integrity of plastic containers by not stacking any other container on top of plastic containers or storing them on a top pallet.
8. All corrosives with pH ≤ 2 must be stored directly on UL Listed corrosion resistant grating or be stored on pallets covered with corrosion resistant material that prevents waste from coming in contact with the pallet.
9. **DO NOT** stack containers of acidic waste.
10. Identify and store incompatible wastes in separate containment.
11. Store all liquid wastes in secondary containment.
12. **DO NOT** accept pyrophoric materials or waste for storage in this facility.
13. Treatment of waste materials within this facility is prohibited. The addition of sorbent materials (non-RCRA) to remove the presence of free liquids is permissible.
14. The maximum gross weight of waste containers in the C-746-Q facility shall not be permitted to exceed 9.16E6 lbs (9,160,000 lbs). This floor loading is 29.4% of the total weight (30.1 million lbs) analyzed.
15. With the exception of the fire retardant gypsum covering the roll-up doors, the fire retardant gypsum thickness on the inside of the east wall of the C-746-Q Building shall not exceed 1.5 inches.
16. Perform all thermal cutting and welding in accordance with CP3-FP-2005, *Welding, Burning, and Hotwork*.
17. A maximum of 20 cold traps containing up to 5,800 kg of uranium may be accepted from C-410 for storage in C-746-Q.

Appendix E – C-752-A Unique Operating Requirements

1. DO **NOT** store wastes with a flash point at or below 100°F in this facility.
2. Maintain a minimum number multipurpose fire extinguishers as required by the current RCRA Contingency Plan (5 required).
3. DO **NOT** store non-essential combustibles in this facility.
4. Identify and store incompatible wastes in separate containments.
5. Restrict stacking of RCRA wastes to two (2) pallets in height.
6. DO **NOT** accept pyrophoric materials or waste for storage in this facility.

Appendix F – Acid Label (CP-21048 or Equivalent)

BLACK LETTERS ON RED BACKGROUND

Appendix F – Base Label (CP-21049 or Equivalent)

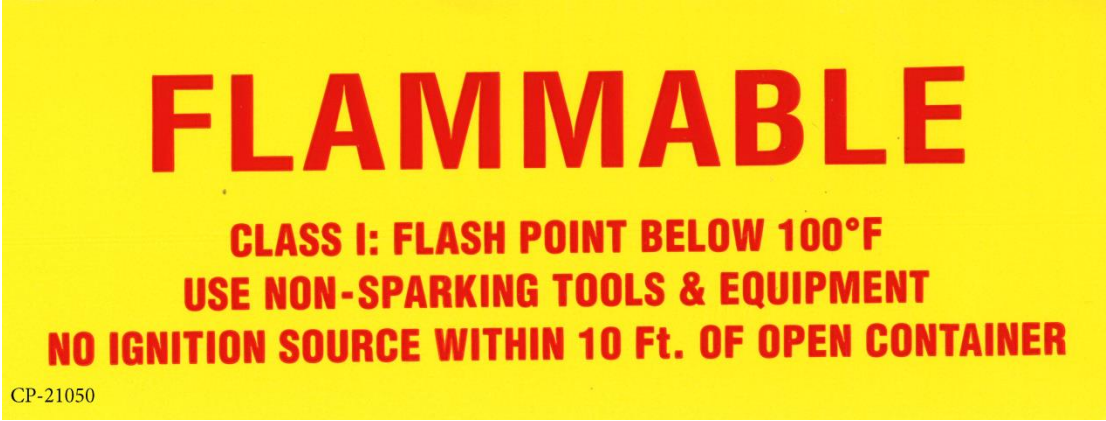
BLACK LETTERS ON BLUE BACKGROUND

Appendix H – Oxidizer Label (CP-21052 or Equivalent)

BLACK LETTERS ON GREEN BACKGROUND

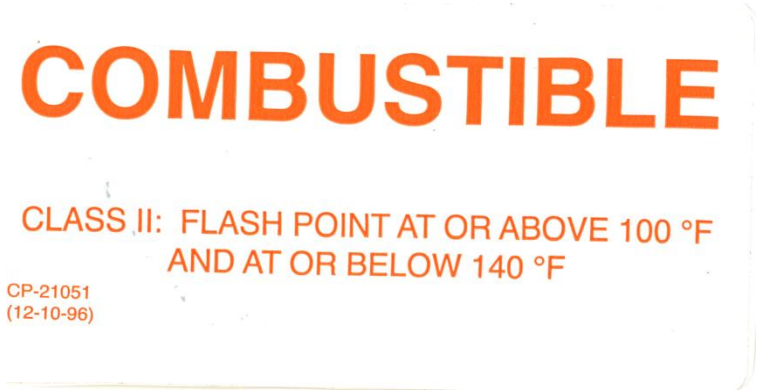
Appendix I – Flammable Label (CP-21050 or Equivalent)

RED LETTERS ON YELLOW BACKGROUND



Appendix J – Combustible Label (CP-21051 or Equivalent)

ORANGE LETTERS ON WHITE BACKGROUND



Appendix K – Implementation of the Contingency Plan

The PSS has the responsibility for control of initial emergency response. The PSS has the authority to commit all resources at the PGDP in response to an emergency. Examples of incidents which might require initiation of the Contingency Plan are:

A fire/explosion involving hazardous waste such that:

- The potential for human injury exists;
- Toxic fumes are released;
- The fire could spread on- or off-site and possibly ignite other flammable materials or cause heat-induced explosions;
- The use of water and/or chemical fire suppressants could result in contaminated runoff; or
- An imminent danger exists that an explosion could ignite other hazardous waste at the facility and possibly result in the release of toxic materials.

A spill of hazardous waste occurs such that:

- The spill could result in release of flammable liquids or vapors, thus causing a fire or gas explosion hazard;
- The spill could result in the release of toxic liquids or fumes;
- The spill can be contained on-site, but the potential exists for soil or groundwater contamination; or
- The spill cannot be contained on-site, resulting in off-site soil contamination and/or ground or surface water pollution.

The PSS will notify FRNP and/or DOE of the emergency situation. At the discretion of FRNP/DOE, the PSS will initiate actions defined in the actions defined in the Contingency Plan contained in Section 3 of Attachment G of the permit.