# RADIOACTIVE MATERIALS AND WASTE LABELLING AND STORAGE

## 1.0 Objective

The objective of this surveillance is to review the laboratory's practices for labelling and storing radioactive wastes including transuranic wastes, low-level wastes, and mixed wastes. The Facility Representative or Environmental, Safety, and Health Support Specialist conducts a walkthrough of storage areas and reviews applicable documents to evaluate compliance with DOE requirements and standards and implementation of best practices.

## 2.0 References

2.1 DOE O 420.1, *Facility Safety*

2.2 DOE 5480.2A, *Radioactive Waste Management*

2.3 DOE/EH-0256T, Rev. 1, *U.S. Department of Energy Radiological Control Manual*

## 3.0 Surveillance Activities

In performing this surveillance, the Facility Representative or Environmental, Safety, and Health Support Specialist completes the following activities:

1. Walkthrough of storage areas for fissile materials or wastes containing transuranic elements.

2. Walkthrough of storage areas for low-level radioactive waste.

**Surveillance Guideline**
**RADIOACTIVE MATERIALS AND WASTE LABELLING AND STORAGE**

Surveillance No.: _____

Facility: _____

Date Completed: _____

| | | YES | NO | N/A |
|---|---|---|---|---|
| **Activity 1 - Walkthrough of Storage Areas for Fissile Material or Transuranic Wastes** | | | | |
| In reviewing the fissile material, transuranic waste, and low-level waste storage areas, the Facility Representative or Environmental, Safety, and Health Support Specialist should determine the following for each area surveilled: | | | | |
| 1. | Are radioactive materials stored in specially designated Radioactive Material Areas? | ____ | ____ | ____ |
| 2. | Has the Radiological Control Manager approved each Radioactive Material Area? | ____ | ____ | ____ |
| 3. | Has a custodian been assigned responsibility for each Radioactive Material Area? | ____ | ____ | ____ |
| 4. | Does the custodian conduct regular walkthroughs of the Radioactive Material Areas to check container integrity? | ____ | ____ | ____ |
| 5. | Does the custodian conduct annual or more frequent walkthroughs to identify needs regarding: | | | |
| | a. Decontamination? | ____ | ____ | ____ |
| | b. Movement of wastes or materials to long-term storage? | ____ | ____ | ____ |
| | c. Disposal of unneeded materials? | ____ | ____ | ____ |
| 6. | Are measures implemented to prevent storage of non-radioactive materials in Radioactive Material Areas? | ____ | ____ | ____ |
| 7. | For outdoor Radioactive Material Areas, does the custodian check container integrity monthly to preclude degradation from weathering that could result in release of radioactive materials? | ____ | ____ | ____ |

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| | | YES | NO | N/A |
|---|---|---|---|---|
| 8. | Are areas adjacent to Radioactive Material Areas free of flammable or combustible material storage? | ____ | ____ | ____ |
| 9. | Are Radioactive Material Areas clearly marked? | ____ | ____ | ____ |
| 10. | Do packages of transuranic wastes have a specific activity greater than 100 nCi/gm? (Lower specific activities are treated as low-level waste) | ____ | ____ | ____ |
| 11. | Have transuranic waste packages been assayed to determine the kinds and quantities of transuranic radionuclides present? | ____ | ____ | ____ |
| 12. | Are transuranic wastes placed in non-combustible packaging? | ____ | ____ | ____ |
| 13. | Are transuranic wastes segregated from or clearly identified to differentiate from high-level or low-level radioactive wastes? | ____ | ____ | ____ |
| 14. | Is transuranic waste protected from unauthorized access? | ____ | ____ | ____ |
| 15. | Are all Type A transuranic waste containers equipped with pressure relief devices such as permeable gaskets, vent clips, and filtered vents to prevent pressure buildup? | ____ | ____ | ____ |
| 16. | Are records maintained documenting periodic monitoring to ensure that transuranic waste containers are not releasing their radioactive or hazardous constituents? | ____ | ____ | ____ |
| 17. | Are transuranic wastes stored in such a way as to maintain radiation exposures as low as reasonably achievable? | ____ | ____ | ____ |
| 18. | Have detailed criticality safety analyses been performed to confirm the suitability of material storage? | ____ | ____ | ____ |
| 19. | Does the as-stored condition of the fissile material fall within assumptions made in the safety analysis? | ____ | ____ | ____ |

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| | | YES | NO | N/A |
|---|---|---|---|---|
| **Activity 2 - Walkthrough of Storage Area for Low-Level Radioactive Waste** | | | | |
| 20. | Does each waste package have a manifest that identifies: | | | |
| | a. Physical and chemical characteristics of the waste? | ____ | ____ | ____ |
| | b. Volume of waste? | ____ | ____ | ____ |
| | c. Weight of waste? | ____ | ____ | ____ |
| | d. Major radionuclides and concentration? | ____ | ____ | ____ |
| | e. Packaging data? | ____ | ____ | ____ |
| | f. Packaging weight? | ____ | ____ | ____ |
| | g. Package volume? | ____ | ____ | ____ |
| 21. | Have procedures been developed to control handling, movement, and shipment of wastes? | ____ | ____ | ____ |
| 22. | Have appropriate administrative controls been established for limits on total quantities of materials, quantities of individual units, container dimensions, and spacing between units? | ____ | ____ | ____ |
| 23. | Is low-level waste segregated from uncontaminated wastes and high-level or transuranic wastes? | ____ | ____ | ____ |
| 24. | Is low-level waste stored so that radiation exposures are maintained as low as reasonably achievable? | ____ | ____ | ____ |
| 25. | Are all waste containers structurally sound and intact exhibiting no visible signs of deterioration, corrosion, or degradation? | ____ | ____ | ____ |
| 26. | Are waste containers protected from exposure to water? | ____ | ____ | ____ |
| 27. | Is low-level radioactive waste clearly labelled to indicate the radiological hazard? | ____ | ____ | ____ |
| 28. | Does storage of radioactive waste minimize combustible loading? | ____ | ____ | ____ |

**Surveillance Guideline**
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| | YES | NO | N/A |
|---|---|---|---|
| OTHER: | | | |
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| _____ | | | |
| _____ | ____ | ____ | ____ |
| _____ | | | |
| _____ | | | |
| _____ | ____ | ____ | ____ |
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| _____ | ____ | ____ | ____ |

NOTES/COMMENTS:

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PERSONNEL CONTACTED: _____

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**Surveillance Guideline**
**RADIOACTIVE MATERIALS AND WASTE LABELLING AND STORAGE**

**IF MORE SPACE IS NEEDED FOR FINDINGS, OBSERVATIONS, AND FOLLOWUP ITEMS - USE ADDITIONAL SHEETS**

FINDINGS:

Finding No.: _____

Description: _____

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_____

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Finding No.: _____

Description: _____

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Finding No.: _____

Description: _____

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**Surveillance Guideline**
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OBSERVATIONS:

Observation No.: _____

Description: _____

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Observation No.: _____

Description: _____

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Observation No.: _____

Description: _____

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**Surveillance Guideline**
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FOLLOWUP ITEMS:

Followup Item No.: _____

Description: _____

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Followup Item No.: _____

Description: _____

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Followup Item No.: _____

Description: _____

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**Surveillance Guideline**
**RADIOACTIVE MATERIALS AND WASTE LABELLING AND STORAGE**

LABORATORY MANAGEMENT DEBRIEFED AND RESULTS: _____

_____

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_____

Signature:_____ Date: _____
Facility Representative or
Environmental, Safety, and Health Support Specialist