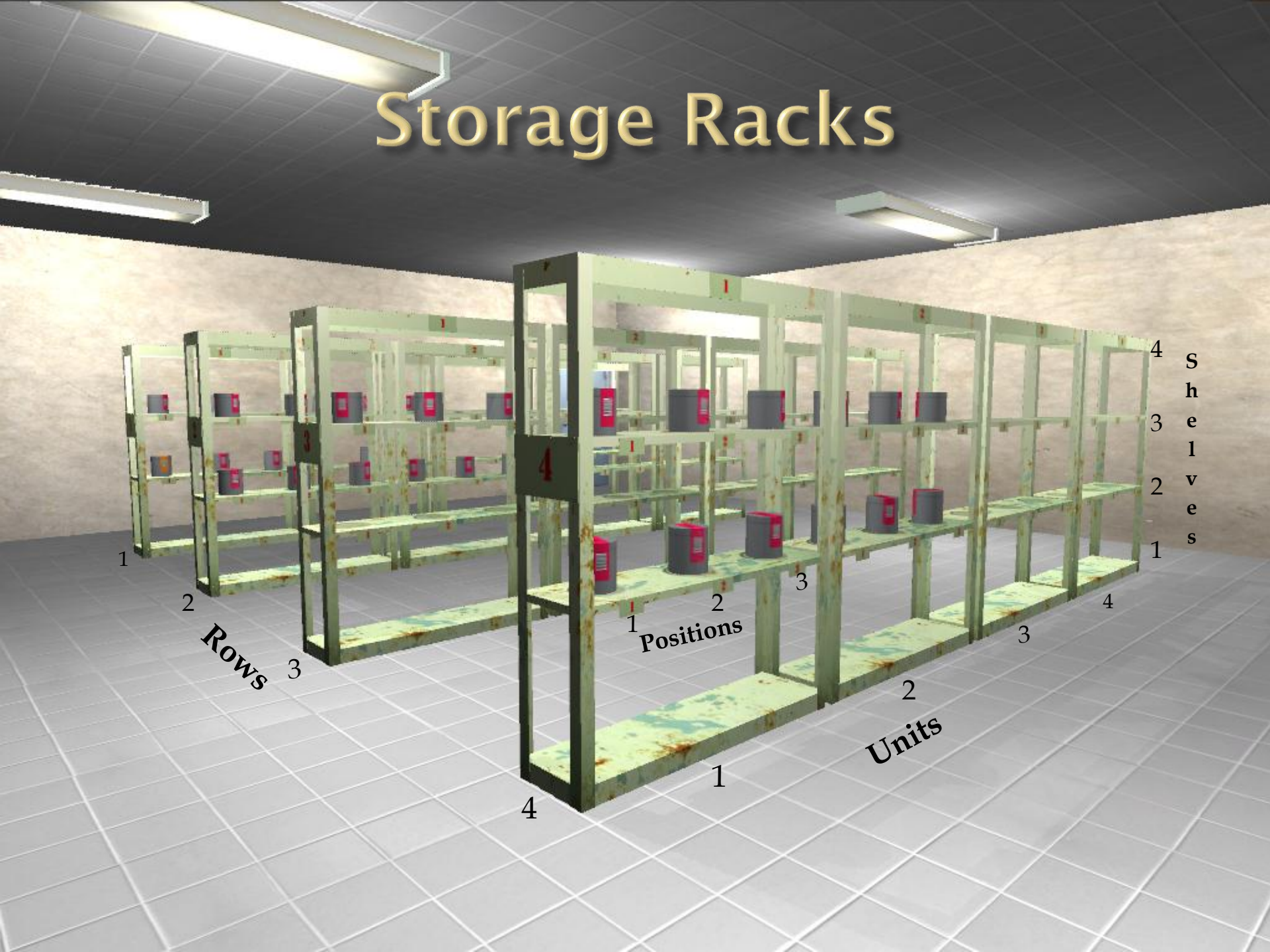
PHYSICAL INVENTORY TAKING

Virtual Storage Vault Exercise

Instructions

- You will be entering an intermediate storage vault of a material conversion facility containing highly enriched uranium metal or oxide.
- Your job is to inventory and inspect all containers in the vault and perform confirmatory measurements on containers that show any indication of tampering.

Storage Racks



Equipment

Sodium Iodide Detector
Scale
Laptop
Gamma Spectrometer MCA
Bar Code Scanner

Recording Your Inventory

- Record location, container ID, and tamper ID for all containers.
- Record gross weight and enrichment for suspect containers.
- Record special observations in the Notes field.

NMC&A Inventory Sheet

MBA: _____ Page ____ of ____

Vault: _____ Inspector 1: _____

Date: _____ Inspector 2: _____

	Row	Unit	Shelf	Position	Item ID	Tamper ID	Measured GrossWt (g)	Measured Enrichment	Notes
1	1	1	3	1	DIT-ERR-01	R009532	983.1	93.16	
2	1	1	3	2	DIT-ERR-02	R009533	967.8	93.17	
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									

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Reconcile Your Inventory

- Compare the physical inventory data with the declared inventory.
- Make notes of any discrepancies to discuss during the inventory debriefing.

Declared Inventory

Location	Item ID	Tamper ID	Type	Type code	GrossWt (g)	Net (g)	Total U (g)	Enrichment	U235 (g)
1.1.3.1	DIT-ERR-01	R009532	U-Metal	38	983.1	783.1	783.1	93.16	729.50
1.1.3.2	DIT-ERR-02	R009533	U-Metal	38	967.8	767.8	767.8	93.17	715.40
1.1.2.1	KWB-106	R008086	U-Metal	38	914.2	714.2	714.2	93.1	664.90
1.1.2.2	KWB-107	R008087	U-Metal	38	955.6	755.6	755.6	93.16	703.90
1.1.2.3	KWB-108	R008088	U-Metal	38	946.3	746.3	746.3	93.11	694.90
2.1.2.1	MEB-K25-1	1709	U3O8	38	978.0	778	659.7	93.12	614.30
2.1.2.2	MEB-K25-2	1710	U3O8	38	995.7	795.7	674.7	93.16	628.60
2.1.2.3	MEB-K25-3	1711	U3O8	38	923.1	723.1	613.2	93.16	571.20
2.1.3.1	MEB-K25-4	1712	U3O8	38	970.7	770.7	653.5	93.16	608.80
2.1.3.2	MEB-K25-5	1713	U3O8	38	904.2	704.2	597.1	93.11	556.00
2.2.2.1	PCR-1202-48	2086	U3O8	38	978.7	778.7	660.3	93.11	614.80
2.2.2.2	PCR-1202-49	2087	U3O8	38	984.2	784.2	665	93.1	619.10
2.2.2.3	PCR-1202-50	2088	U3O8	38	924.6	724.6	614.4	93.12	572.20
1.2.2.2	TQQ-299-138	R008351	U-Metal	38	999.4	799.4	799.4	93.15	744.60

Get Declared Inventory here

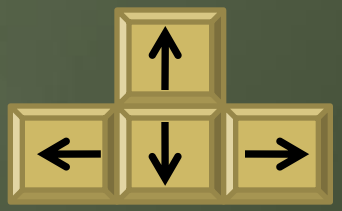
Controls

F1

F1- Displays Help

W
A S D

W/Up Arrow - Walk Forward
S/ Down Arrow- Walk Backward
A/Left Arrow- Slide Left
D/Right Arrow- Slide Right



C

C- Pickup or Place a Canister

E

E- Hold/Holster Bar Code Scanner

I

I- Toggle Container Inspection

Enter

Enter- Activate Current Equipment Device

1 2 3

1/2/3- NDA Capture/Spectrum/Report

Print controls sheet here

Starting the Exercise

This exercise uses an interactive virtual environment. Choose a screen size and quality on the start menu that best fits your current computer.

Click to begin

Note: In this demo version, the button above plays a video of the virtual environment. To acquire a playable version, contact Brad Weil weilbs@ornl.gov 865-574-7147.