

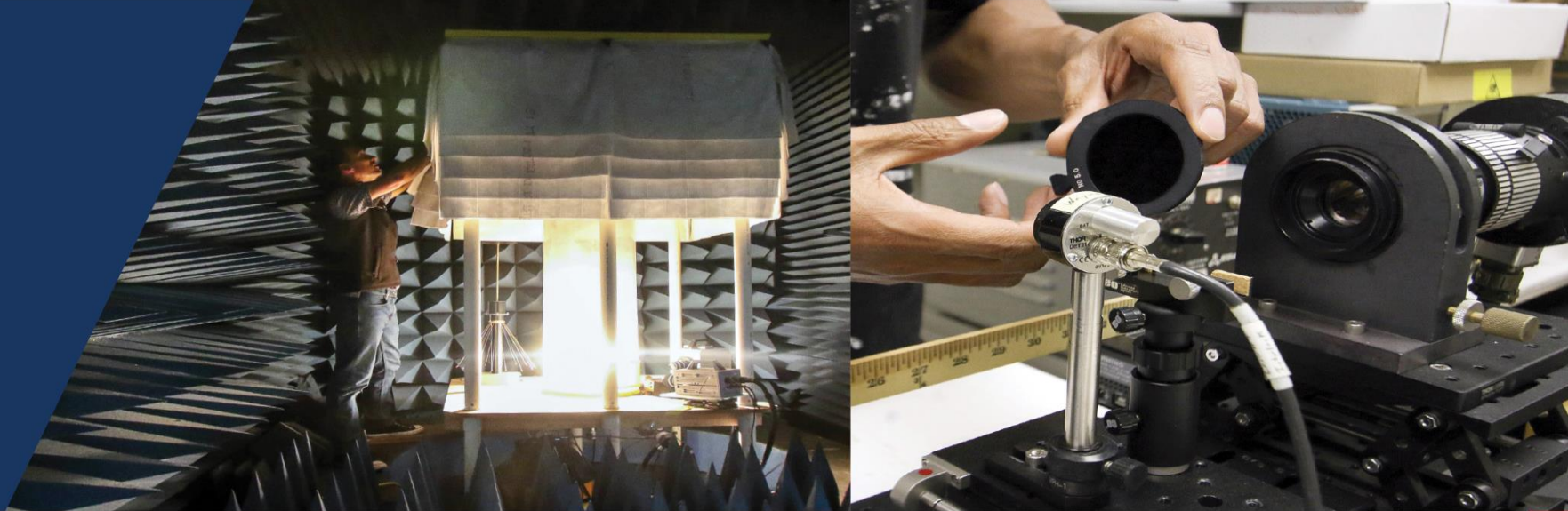
2024 DOE Safety and Security Enforcement Workshop

WELCOME!

Anthony Pierpoint
Director
Office of Enforcement
Office of Enterprise Assessments

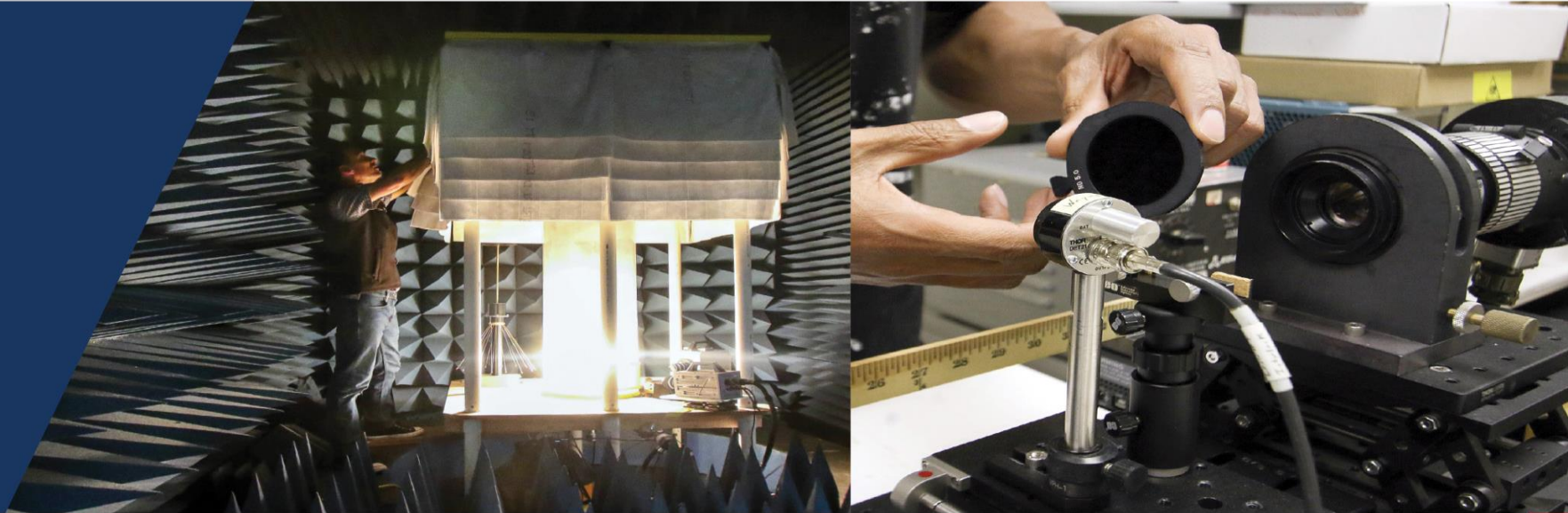


Welcome...



Garrett Harencak
President
Mission Support and Test Services

May 7, 2024

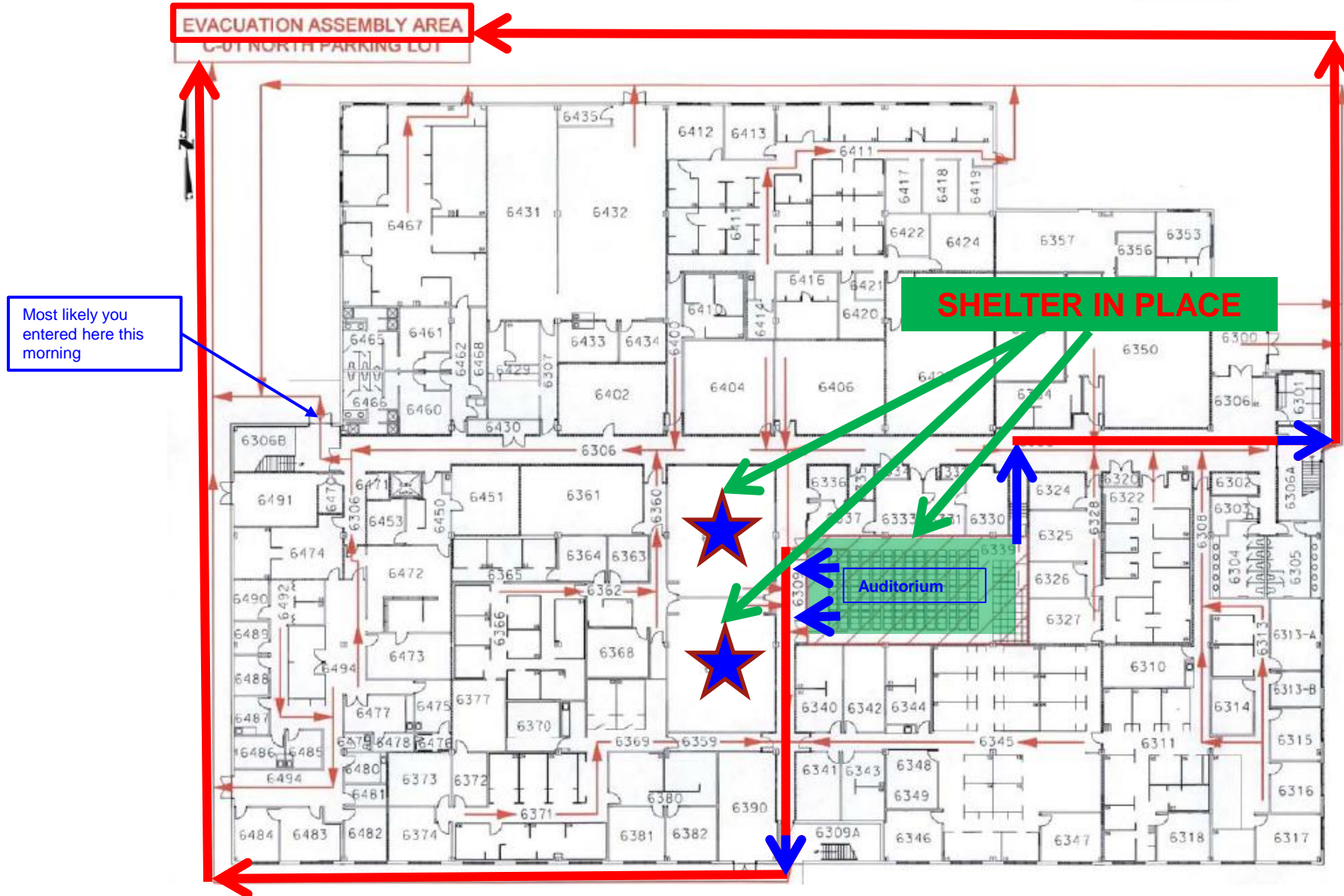


Logistics

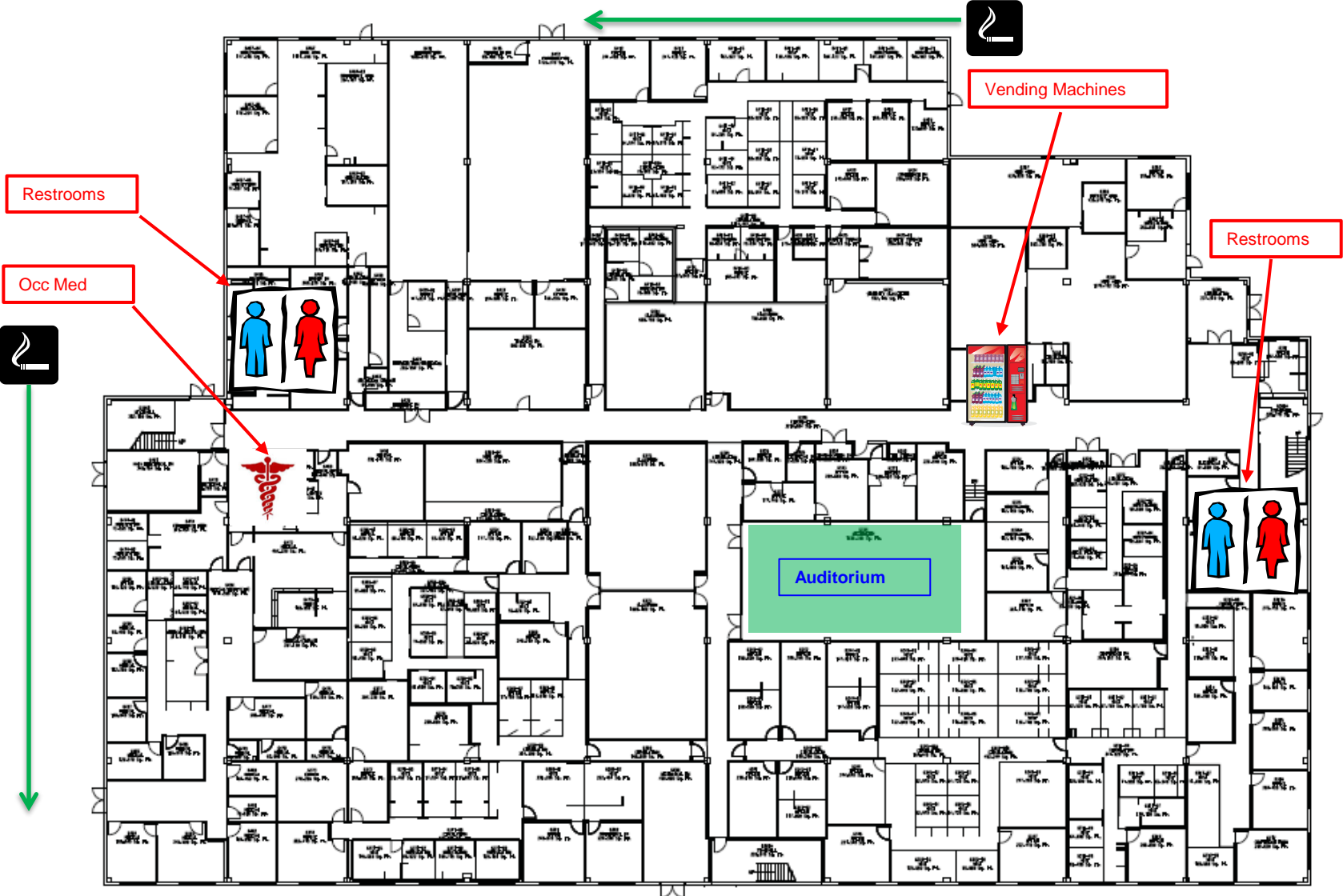
Barry Thom

Manager, Occurrence & Regulatory Reporting
Mission Support and Test Services

Shelter In-Place and Evacuation for C1 Auditorium



Building Information



- ▶ Emergency – 911 / Occ Med Clinic at the North end of C-01
- ▶ Return visitor badges to the blue mailboxes on the last day
- ▶ Cellphones/iPads/Laptops are OK
- ▶ **No pictures, recordings, or mobile WiFi hotspots**
- ▶ **Do not connect anything to one of our systems**
- ▶ Food
 - Cafeteria (Up the Hill) – takes credit cards (No cash) from 0630 to 1530
 - North (left) on Losee Rd. – Be careful – Multiple locations: to include:
 - McDonalds (on left at Cheyenne)
 - Cannery Casino (on left at Craig)
 - Del Taco (on right at Craig)
 - Famous Dave’s Barbeque (on right at Craig)
 - Chipotle Mexican (on right at Craig)
- ▶ Your POC
 - Barry Thom– 702-249-6952

Agenda

May 7, 2024

8:00 - 8:10	Office of Enforcement Welcome	Anthony Pierpoint, Director, Office of Enforcement
8:10 - 8:30	Welcome and Logistics	Garrett Harencak, President, Mission Support and Test Services, LLC Barry Thom, Enforcement Coordinator, Mission Support and Test Services, LLC
8:30 - 9:00	Opening Remarks	John Dupuy, Director, Office of Enterprise Assessments William "Fred" West, Deputy Director, Office of Enterprise Assessments
9:00 - 9:30	Office of Enforcement Program Update	Anthony Pierpoint, Director, Office of Enforcement
9:30 - 10:00	Break	
10:00 - 10:45	Worker Safety and Health Enforcement Program Update	Shannon Holman, Director, Office of Worker Safety and Health Enforcement
10:45 - 11:30	Nuclear Safety Enforcement Program Update	Jacob Miller, Director, Office of Nuclear Safety Enforcement
11:30 - 1:00	Lunch	
1:00 - 1:30	Security Enforcement Program Update	Carrienne Zimmerman, Director, Office of Security Enforcement
1:30 - 2:00	EFCOG News and Update	Kathy Brack, EFCOG Regulatory & Enforcement Subgroup Co-Chair, Consolidated Nuclear Security, LLC
2:00 - 2:30	Accident Investigation	Stephen Wallace, Senior Advisor, Chief of Defense Nuclear Safety (ESH-21)
2:30 - 3:00	Defense Nuclear Facility Safety Board Perspectives	Joyce Connery, Chair, Defense Nuclear Facility Safety Board
3:00 - 3:30	Break	
3:30 - 5:00	Case Studies Worker Safety and Health	Room 6339
	Case Studies Nuclear Safety	Room 6375
	Case Studies Information Security	Room 6510

Agenda

May 8, 2024

8:00 - 8:10	Office of Enforcement Welcome Back	Anthony Pierpoint, Director, Office of Enforcement
8:10 - 8:30	Whistleblower Protection Provisions	Robin Keeler, Deputy Director, Office of Enforcement
8:30 - 9:00	DOE Employee Concerns Program	James Hutton, Director, Employee Workplace Programs Office of Environment, Health, Safety and Security
9:00 - 9:30	Worker Safety and Health Policy News and Update	James Dillard, Director, Office of Worker Safety and Health Policy Office of Environment, Health, Safety and Security
9:30 - 10:00	Break	
10:00 - 10:30	Regulatory Program Assistance Review Discussion	Carrienne Zimmerman, Director, Office of Security Enforcement
10:30 - 11:00	Security Enforcement Presentation - 470.4B Changes	Alan Johnson, IOSC Program Manager, Pacific Northwest National Laboratory
11:00 - 11:45	Phase 1 - Performance Monitoring and Noncompliance Sources	Jason Capriotti, Enforcement Officer, EA-11 Joseph Demers, Enforcement Officer, EA-12 Linwood Livingston, Contractor, EA-13 Heath Garrison, Enforcement Coordinator, NREL

Agenda *(cont'd)*

May 8, 2024

11:45 - 1:15	Lunch	
1:15 - 2:00	Phase 2 - Noncompliance Screening, Identification, and Tracking Systems	<p>Stanley Dutko, Enforcement Officer, EA-11</p> <p>Christian Palay, Enforcement Officer, EA-12</p> <p>Karen Sims, Enforcement Officer, EA-13</p> <p>Tracy Chance, Enforcement Coordinator, Oak Ridge National Laboratory</p>
2:00 - 2:45	Phase 3 - Noncompliance Tracking System and SSIMS Reporting and Closeout	<p>Robert Smith, Enforcement Officer, EA-11</p> <p>Margaret Kotzalas, Enforcement Officer, EA- 12</p> <p>Charles Isreal, Enforcement Officer, EA-13</p> <p>Tamara Baldwin, Enforcement Coordinator, Savannah River Nuclear Solutions</p>
2:45 - 3:15	Break	
3:15 - 4:45	Case Studies Worker Safety and Health	Room 6339
	Case Studies Nuclear Safety	Room 6375
	Case Studies Information Security	Room 6510
4:45 - 5:00	Feedback and Closing	Anthony Pierpoint, <i>Director, Office of Enforcement</i>

Opening Remarks

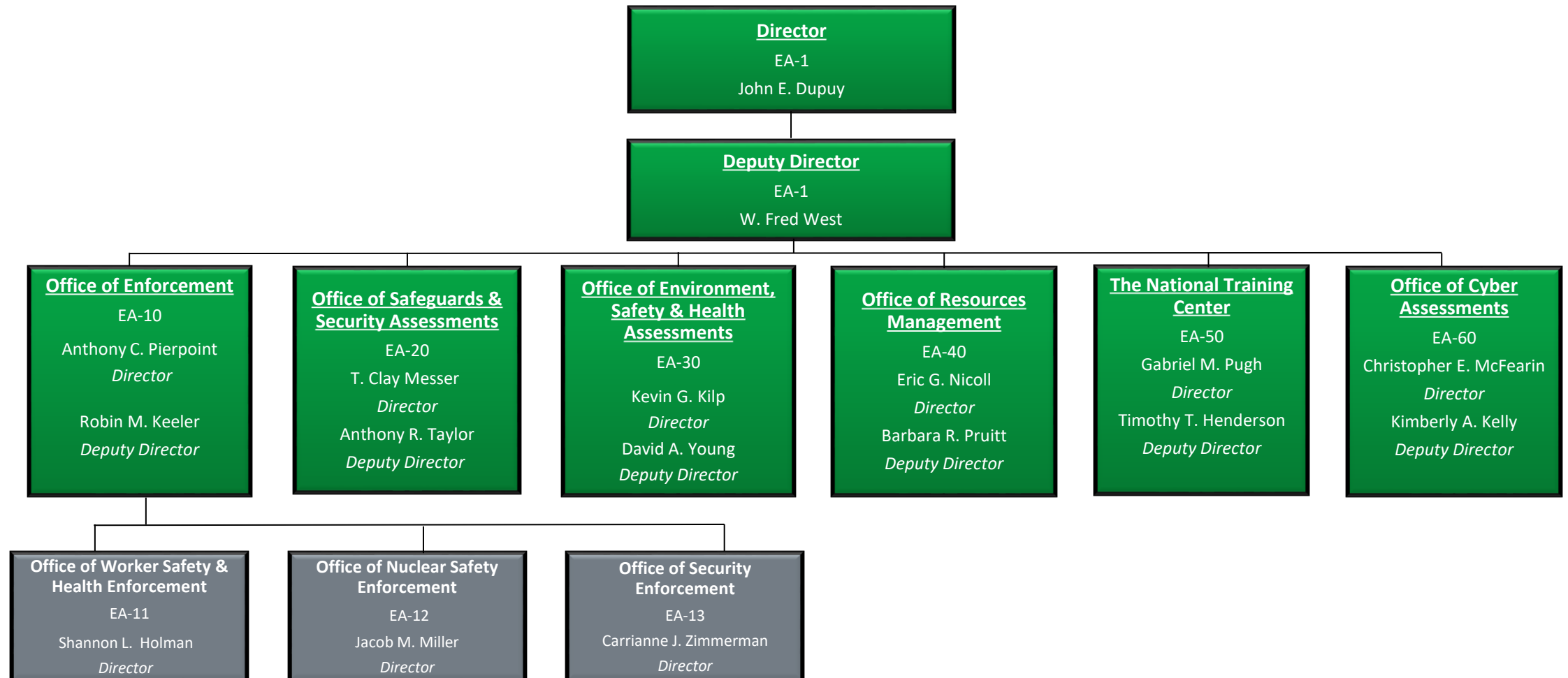
John E. Dupuy
Director

Office of Enterprise Assessments

William “Fred” West
Deputy Director

Office of Enterprise Assessments

EA Organization





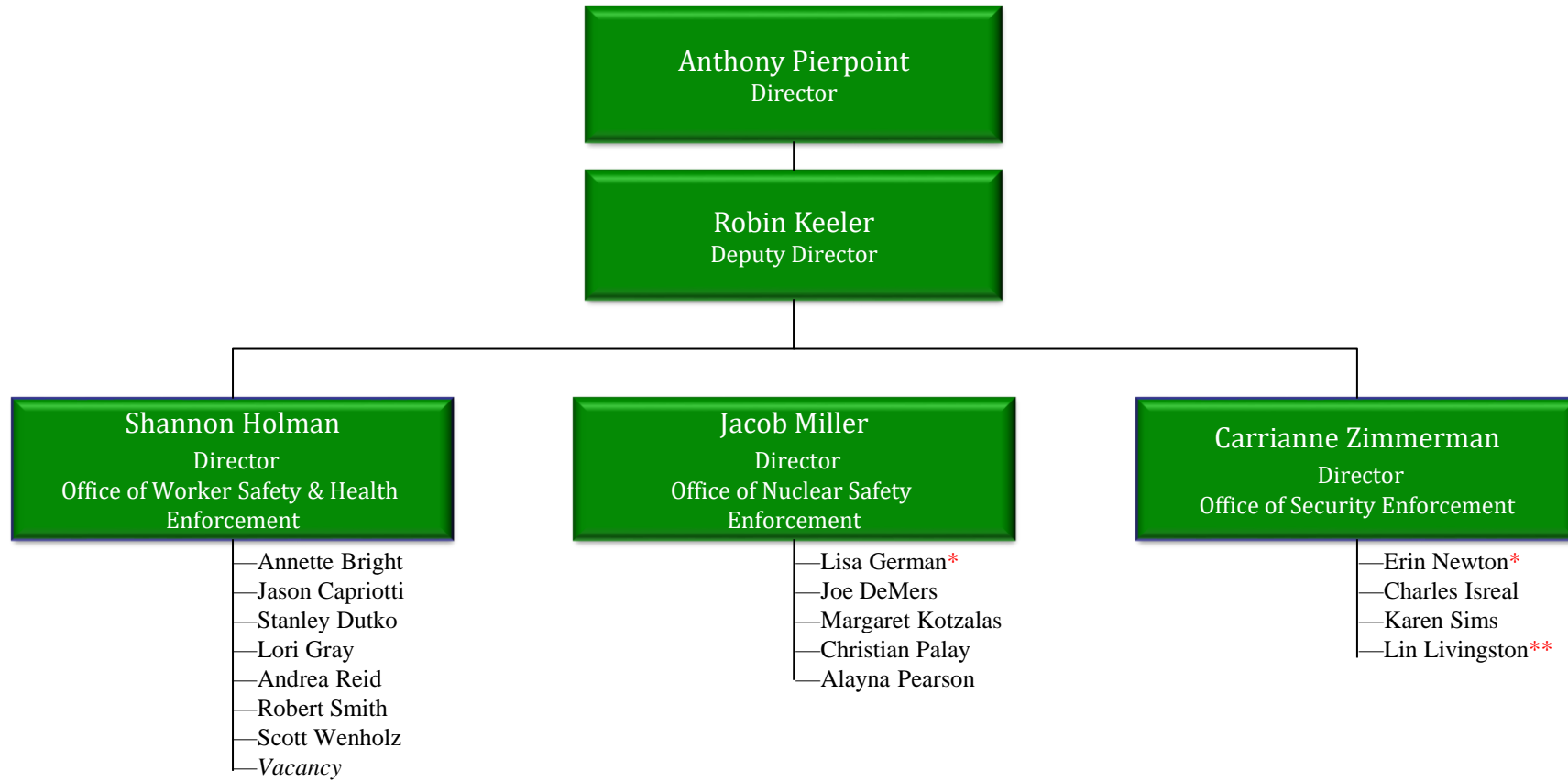
Office of Enforcement Program Update

Anthony Pierpoint
Director
Office of Enforcement

Enforcement Overview

- Organization
- Streamlining Effort
- NTS Update
- Enforcement Cases
- Enforcement Process

EA-10 Organization

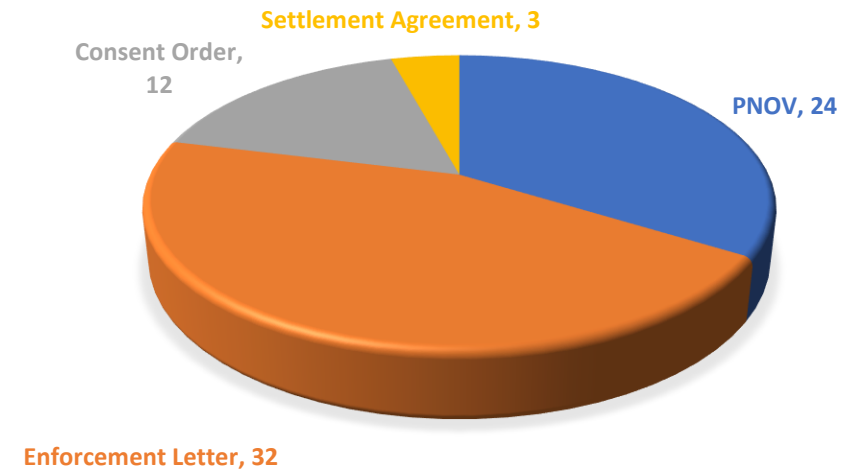
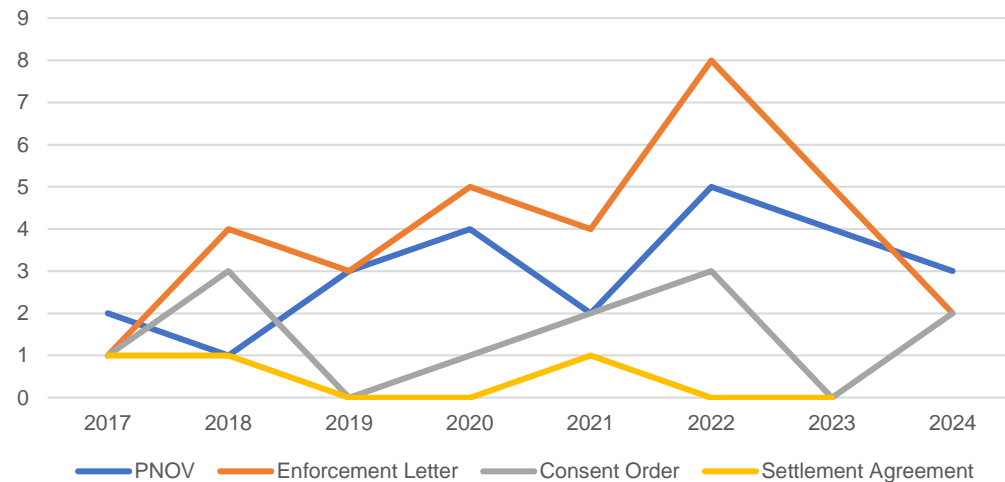
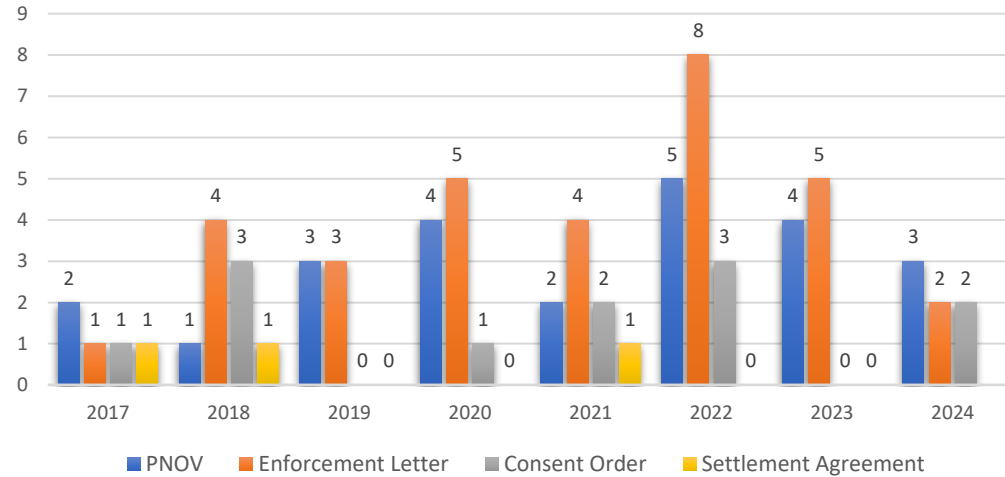


* Denotes Contractor Administrative Support ** Denotes Contractor Support Part-Time

Enforcement Activities

- Enforcement Cases Closed - 15
 - Preliminary Notices of Violation – 6
 - Consent Orders/Settlement Agreements – 2
 - Enforcement Letters – 7
- New Cases - 9
 - Fatality
 - Fall
 - Chemical Exposure
 - Impact Injury (2)
 - Radiological Contamination
 - Criticality Safety
 - Quality Assurance
 - Unauthorized Device

Seven-Year Trending Analysis



NTS

- Report Search Options
- FO Review – Functionality
 - Safety Significance
 - Verification Decision

NTS Report Search | New Report | Report Queue | Admin | Standard Reports | Eric B

NTS Report

NC ID: 1 Contractor: BWXT Y-12 NTS #: NTS-Y12-BWXT-Y12NUCLEAR-2002-0007 Status/Date: Ready for Closure 2/21/2024

Title: Actual Unreviewed Safety Question (USQ) Associated with the Primary Extraction System (9212)

Main Info | Corrective Actions | Citations | ORPS Reports | **FO Comments** | Documents | OE Worksheet

Field Office Comments

Save Report | Cancel

Safety Significance: High [View Guidance from the Office of Enforcement](#)

Corrective Actions Verified?: Yes Safety significance breakdown of (1) report verified by Oak Ridge Y12 Site (last 12 months):
High: 100%
Moderate: 0%
Low: 0%

Last Updated: 3/14/2024 12:06 PM MST by LaTisha Ford

+ Add Field Office Comment

Reported By	Reported Date	Narrative	
Kenneth Ivey	04/01/2003	This Final NTS report was reviewed and verified by the FR who also provided follow-up for the ORPS report for this event. The corrective actions have been completed and should be effective in preventing the recurrence of this event. NNSA/YSO recommends the closure of this report.	Edit

1 - 1 of 1 items

Questions?

BREAK
9:30 – 10:00



Worker Safety and Health Enforcement Program Update

Shannon Holman

Director

Office of Worker Safety and Health Enforcement

Overview

Office of Worker Safety and Health Enforcement

- EA-11 Staffing
- Notice of Intent to Investigate/Investigations
- Enforcement Outcomes
- Enforcement Case Summaries
- Notable Observations

EA-11 Staffing

Shannon Holman
Director
Office of Worker Safety and Health Enforcement

- Annette Bright, Management Analyst
- Jason Capriotti, Enforcement Officer
- Stanley Dutko, Enforcement Officer
- Lori Gray, Enforcement Officer
- Andrea Reid, Enforcement Officer
- Robert Smith, Enforcement Officer
- Scott Wenzholz, Enforcement Officer
- Vacancy – Enforcement Officer*

Notice of Intent to Investigate (FY 23-Present)

Site Contractor	Program Office	Title	Date	Investigation Date
LANL Newport News Nuclear BWXT Los Alamos	EM	Worker Heat Exhaustion Event	November 22, 2022	January 31-February 2, 2023
SLAC National Accelerator Laboratory Stanford University	SC	Arc Flash Injury Event	February 24, 2023	April 18-20, 2023
SRS Savannah River Nuclear Solutions, LLC	EM	Hand Injury (Finger Amputation) Event	March 23, 2023	June 6-8, 2023
OREM APTIM – North Wind Construction JV, LLC	EM	Hand Injury (Finger Amputation) Event	April 14, 2023	No investigation, straight to outcome document.
ICP Idaho Environmental Coalition, LLC	EM	Uncontrolled Exposure to Potentially Dangerous Levels of Carbon Monoxide	May 23, 2023	August 29-31, 2023
ICP American Equipment, Inc.	EM	Uncontrolled Exposure to Potentially Dangerous Levels of Carbon Monoxide	May 23, 2023	August 29-31, 2023
SNL National Technology and Engineering Solutions of Sandia, LLC	NNSA	Worker Hand Injury (Finger Amputation) Event	July 26, 2023	October 2-4, 2023

Notice of Intent to Investigate (FY 23-Present) *(cont'd)*

Site Contractor	Program Office	Title	Date	Investigation Date
FNAL Fermi Research Alliance LLC	SC	Serious Fall Injury	August 14, 2023	October 31-November 2, 2023
FNAL Whittaker Construction & Excavation, Inc.	SC	Serious Fall Injury	August 14, 2023	October 31-November 2, 2023
FNAL Nucor Harris Rebar Midwest, LLC	SC	Serious Fall Injury	August 14, 2023	October 31-November 2, 2023
FNAL Harris Rebar Placing, LLC	SC	Serious Fall Injury	August 14, 2023	October 31-November 2, 2023
Paducah Gaseous Diffusion Plant Mid-America Conversion Services, LLC	EM	Potential Overexposure to Toluene Event	August 21, 2023	October 17-19, 2023
Paducah Gaseous Diffusion Plant Construction Safety Consultants, Inc	EM	Potential Overexposure to Toluene Event	August 21, 2023	October 17-19, 2023
Paducah Gaseous Diffusion Plant Omni Services, Inc	EM	Potential Overexposure to Toluene Event	August 21, 2023	October 17-19, 2023

Notice of Intent to Investigate (FY 23-Present) *(cont'd)*

Site Contractor	Program Office	Title	Date	Investigation Date
Oak Ridge East Tennessee Mechanical Contractors, Inc.	SC	Tree Care Fatality	September 8, 2023	November 14-16, 2023
Oak Ridge The Davey Tree Expert Company	SC	Tree Care Fatality	September 8, 2023	November 14-16, 2023
Oak Ridge UT-Battelle, LLC	SC	Telehandler Injury	January 10, 2024	April 2-5, 2024
Oak Ridge The Whiting-Turner Contracting Company	SC	Telehandler Injury	January 10, 2024	April 2-5, 2024
Oak Ridge BESCO-Engert	SC	Telehandler Injury	January 10, 2024	April 2-5, 2024
NNSS Mission Support and Test Services, LLC.	NNSA	Two Ground Fall Events	February 2, 2024	March 5-7, 2024

Site Contractor	Program Office	Type	Title	Date
LANL Centerra-Los Alamos	NNSA	PNOV/FNOV	Live Fire Near Miss Event	October 6, 2022
KCNSC Honeywell FM&T, LLC	NNSA	CO	Nitrogen Asphyxiation Event	November 7, 2022
WIPP Nuclear Waste Partnership, LLC	EM	PNOV	Hand Injury (Amputation) Event	November 14, 2022
LBNL Advanced Industrial Services, Inc.	SC	PNOV	Abrasive Blasting Injury Event	December 15, 2022
LBNL The Regents of the University of California	SC	CO	Five Significant Safety Events	December 15, 2022
LBNL Superior Tank Solutions, Inc.	SC	EL	Abrasive Blasting Injury Event	December 15, 2022
NNSS Mission Support and Test Services, LLC	NNSA	CO	Worker Exposures to Toxic Gases and Potentially an Oxygen Deficient Atmosphere	December 19, 2022

Site Contractor	Program Office	Type	Title	Date
Moab North Wind Portage, Inc.	EM	PNOV	Bulldozer Track Roller Hand Injury (Amputation) Event	February 8, 2023
KSNSC Honeywell FM&T	NNSA	EL	Heat Stress Requirements and Unsafe Conditions	June 14, 2023
NNSS Mission Support and Test Services, LLC	NNSA	EL	Vehicle Fire and Employee Injury in the Motor Pool Maintenance Facility	June 16, 2023
LANL Newport News Nuclear BWXT Los Alamos	EM	PNOV	Worker Heat Stress Event	December 21, 2023
OREM APTIM – North Wind Construction JV, LLC	EM	EL	Hand Injury (Finger Amputation) Event	January 4, 2024
SLAC National Accelerator Laboratory Stanford University	SC	PNOV	High-Voltage Electrical Shock	January 9, 2024
ICP Idaho Environmental Coalition, LLC	EM	EL	Uncontrolled Exposure to Potentially Dangerous Levels of Carbon Monoxide	January 31, 2024

Issued Enforcement Documents (FY 23-Present) (*cont'd*)

Site Contractor	Program Office	Type	Title	Date
SRS Savannah River Nuclear Solutions, LLC	EM	PNOV	Hand Injury (Finger Amputation) Event	April 3, 2024
SNL National Technology and Engineering Solutions of Sandia, LLC	NNSA	CO	Worker Hand Injury (Finger Amputation) Event	April 12, 2024

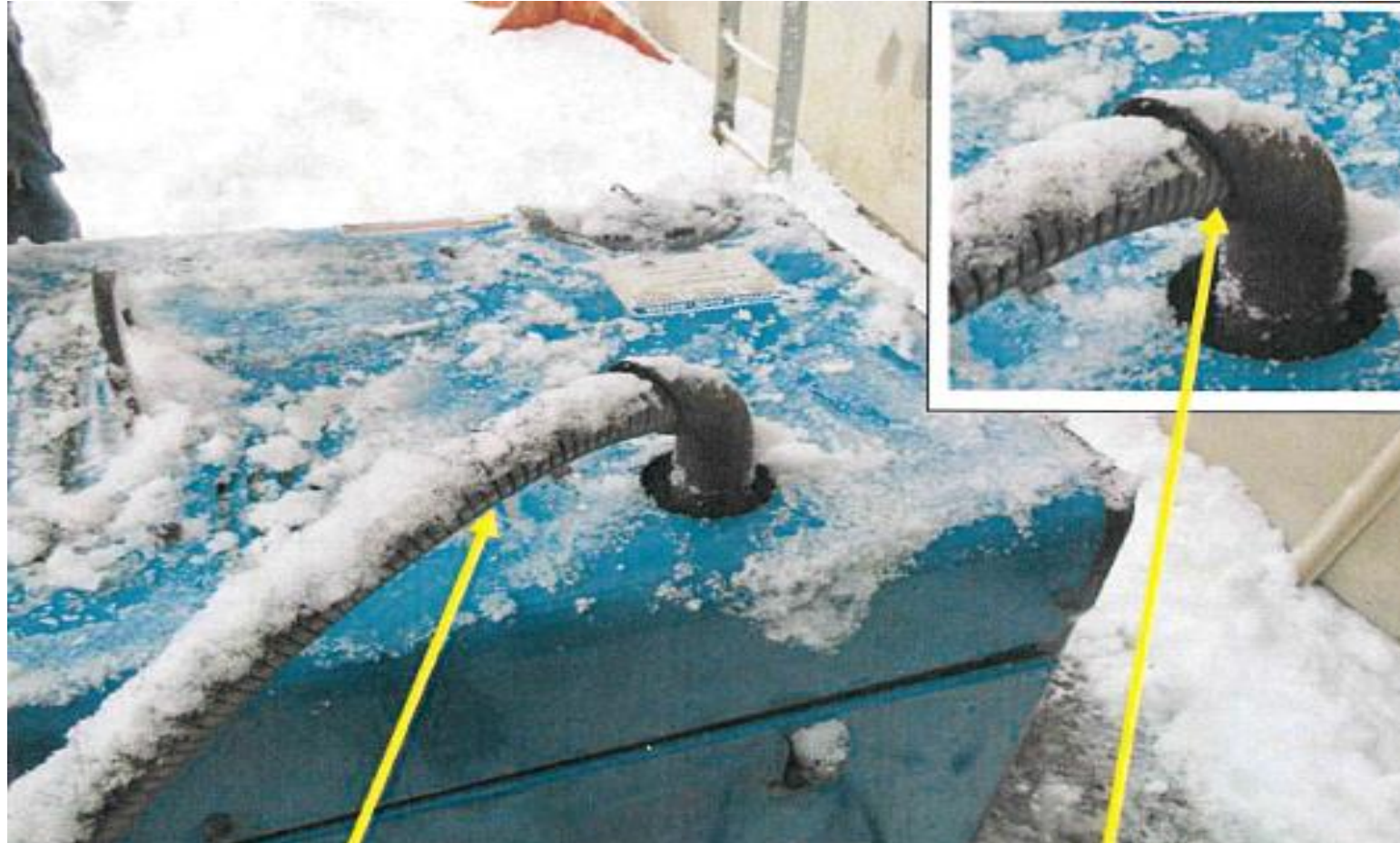
Idaho Cleanup Project

Uncontrolled Exposure to Potentially Dangerous Levels of Carbon Monoxide

- Contractor – Site
 - Idaho Environmental Coalition, LLC. (IEC)
 - Idaho Cleanup Project (ICP)
 - 2 NOI's Issued: IEC and American Equipment (AE)
- Event
 - 2 workers were potentially exposed to an uncontrolled immediately dangerous to life and health (IDLH) level of carbon monoxide (CO).
 - Testing an exhaust extension setup on a gasoline-powered welder generator machine located inside the high bay.
 - Worker diagnosed with CO exposure.

Idaho Cleanup Project

Uncontrolled Exposure to Potentially Dangerous Levels of Carbon Monoxide



Worker Hand Injury (Finger Amputation) Event

- Contractor – Site
 - National Technology and Engineering Solutions of Sandia, LLC (NTESS)
 - Weapons Evaluation Test Laboratory (WETL); Located at Pantex
- Event
 - 4 workers were manually aligning a large 750-pound chamber cover after it had been lowered using a hoist.
 - Worker 1 was using their right middle finger to check if the cover was horizontally aligned with the chamber when the cover fell into place, pinching their finger.
 - Fingertip amputation

Sandia

Worker Hand Injury (Finger Amputation) Event



FERMI

Serious Fall Injury

- Contractor – Site
 - Fermi Research Alliance (FRA)
 - Fermi National Lab
 - 4 NOIs issued: FRA, Whittaker Construction, Nucor Harris, and Harris Rebar Placing
- Event
 - Worker fall from height (approx. 25 feet)
 - Ironworker was preparing to secure a rebar template bar to a concrete formwork wall and fell backwards, striking a diagonal brace before landing on the concrete slab below.
 - Air lifted to a local trauma center and sustained serious injuries, including head trauma.

FERMI

Serious Fall Injury



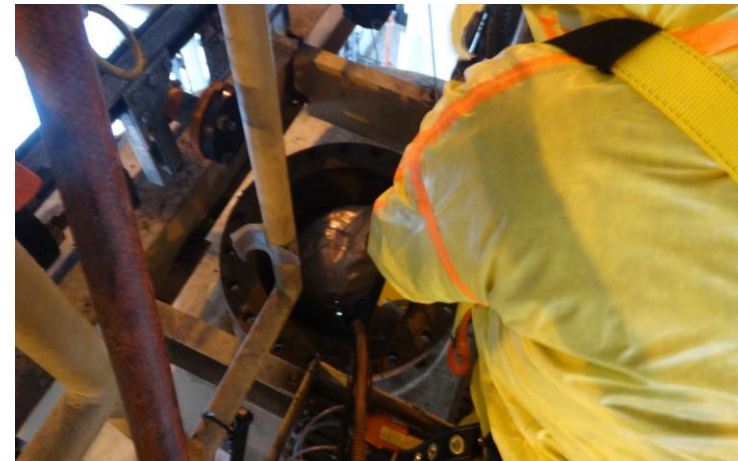
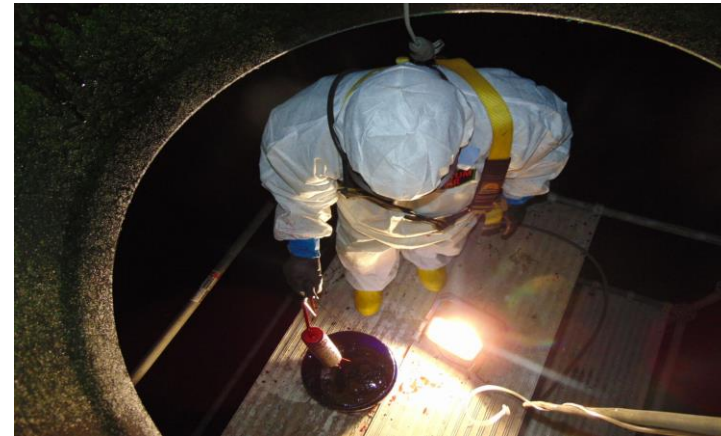
Paducah

Potential Overexposure to Toluene Event

- Contractor – Site
 - Mid-America Conversations Services, LLC
 - Paducah
 - 2 NOIs issued: Mid-America Conversion Services, LLC & Omni Services, Inc.
- Event
 - Remove and replace the chlorobutyl rubber liner inside five HFS tanks
 - Entrant was painting an adhesive for approx. 15 min when he began experiencing symptoms (dizzy, staggering, confused)
 - Entrant had to be retrieved from the tank

Paducah

Potential Overexposure to Toluene Event



Oak Ridge

Tree Care Fatality

- Contractor – Site
 - East Tennessee Mechanical Contractors, Inc.
 - Oak Ridge National Laboratory- Reservation Management
 - 2 NOIs Issued: East Tennessee Mechanical Contractors, Inc. (ETMC) & Cortese Tree Specialists
- Event
 - Performing tree clearing operations
 - Final cut to the trunk of a tree (approximately forty feet tall and one foot in diameter). Employee was struck in the head

Oak Ridge

Tree Care Fatality



Oak Ridge

Telehandler Event

- Contractor – Site
 - UT-Battelle
 - Oak Ridge National Laboratory
 - 3 NOIs issued: UT-Battelle, Whiting-Turner Contracting Company, and BESCO-Engert
- Event
 - Lifting materials to an exterior roof access point
 - Unsecured 585-lb Extendable Truss Boom (jib) attachment, came loose from the telehandler, and slid off the forks, striking and pinning a pipefitter on the roof by their pant leg.
 - Multiple traumatic fracture injuries to bones (ankle and pelvis).

Oak Ridge Telehandler Event



Telehandler, Jib, and Load on Roof Post-Incident

NNSS

Two Ground Fall Events

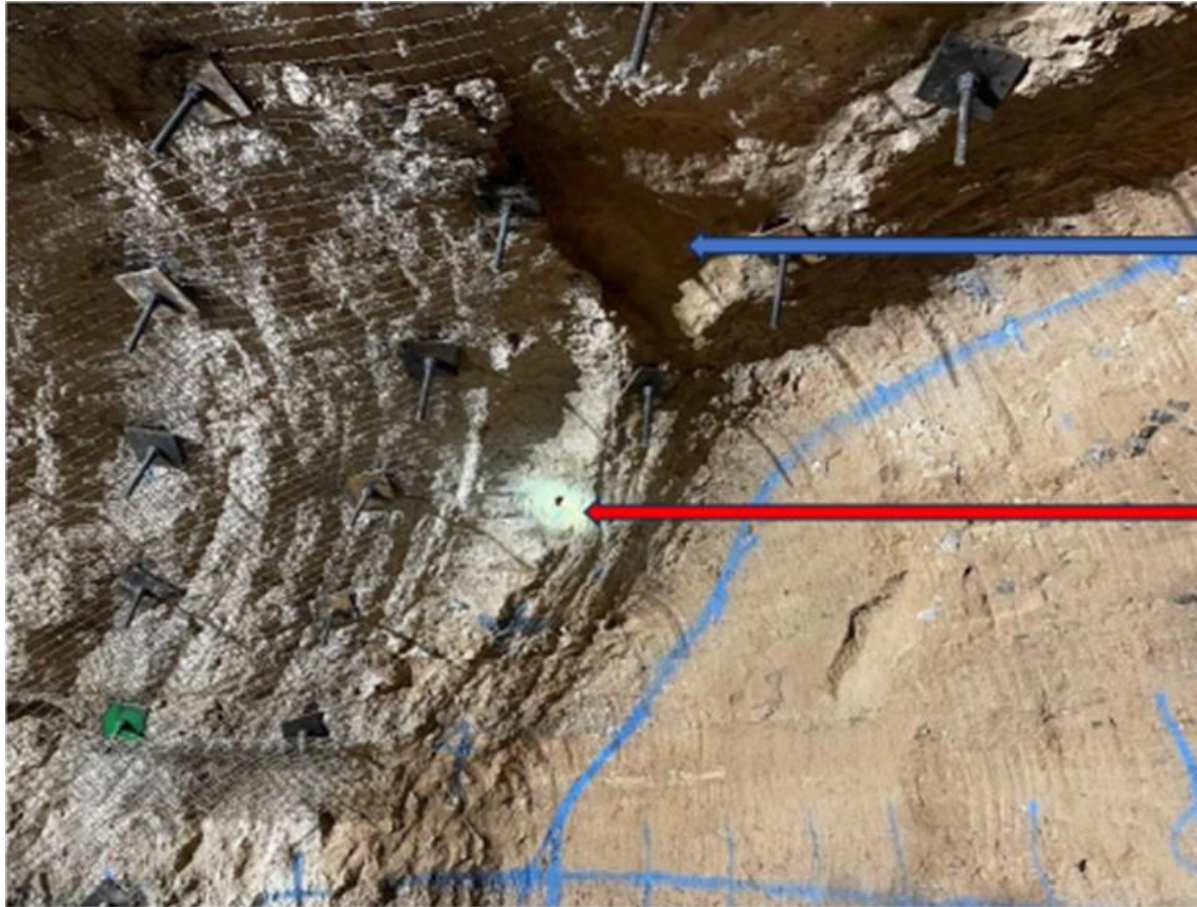
- Contractor – Site
 - Principal Underground Laboratory for Subcritical Experimentation (PULSE) facility
 - Nevada National Security Sites
- Event
 - Two ground fall events
 - Loose and unsecured soil and rocks fell onto and significantly injured multiple miners

Two Ground Fall Events (Event 1)



NNSS

Two Ground Fall Events (Event 2)



Red Arrow: Rockbolt drill hole being worked on with a Jackleg.

Blue Arrow: Ground fall area

Notable Observations

- Subcontractor safety
- Inadequate work planning and control
- Job/process hazard analysis ineffective/absent
- Non-routine and skill of the craft tasks
- Worker training & qualifications
- Amputations

Questions ?





Nuclear Safety Enforcement Program Update

Jacob M. Miller

Director

Office of Nuclear Safety Enforcement

Office of Enterprise Assessments

Overview

- **Nuclear Safety Enforcement Office Update**
- **Completed and Ongoing Cases**
- **Data Analysis and Trends**
- **Other Activities**

Nuclear Safety Enforcement Office Update

- **Staffing:**
 - Jacob M. Miller, Director
 - Joseph DeMers, Enforcement Officer
 - Margaret Kotzalas, Enforcement Officer
 - Christian Palay, Enforcement Officer
 - Alayna Pearson, Enforcement Officer
 - Lisa German, Contractor Administrative Support

Completed Cases

Contractor	Issue	Outcome
Triad National Security, LLC (Triad)	Glovebox flooding and Other Nuclear Safety Events in the Plutonium Facility Building 4 (PF-4)	PNOV <i>May 2023</i>
	Unplanned radiation exposure to workers at the Los Alamos Neutron Science Center facility (LANSCE)	Enforcement Letter <i>June 2023</i>
	Release of radioactive material from a glovebox in PF-4	PNOV <i>October 2023</i>
Fermi Research Alliance, LLC (FRA)	Unplanned radiation exposure to a worker in the Proton Source Test Area of the Fermi National Accelerator Laboratory	Consent Order <i>February 2024</i>

Ongoing Cases

Contractor	Issue	Notice of Intent
Mid-America Conversion Services, LLC (MCS)	Nuclear safety deficiencies occurring at the Portsmouth Depleted Uranium Hexafluoride Conversion (DUF6) facilities	<i>December 2022</i>
Consolidated Nuclear Security, LLC (CNS)	Loss of Criticality Controls During Demolition at Y-12 National Security Complex.	<i>August 2023</i>
Lawrence Livermore National Security, LLC (LLNS)	Deficiencies in implementing the quality assurance program.	<i>November 2023</i>
	Loss of contamination control and discovery of contaminated property both on and offsite.	<i>January 2024</i>

Glovebox Flooding and Other Nuclear Safety Events

- **Contractor – Site**
 - Triad National Security, LLC
 - Los Alamos National Laboratory
- **Conditions:**
 - Exceeded criticality safety mass control requirements, February 11, 2022
 - Glove breach releasing radioactive contamination, March 3, 2021
 - Vault water bath flooding, March 31, 2021
 - Glovebox flooding, July 19, 2021



Glovebox Flooding and Other Nuclear Safety Events Outcome - PNOV

- **Areas of Violation**

- Procedural compliance

- Bypassed safety feature (blocked open water valve)
- Delegation of work to nonqualified workers
- Not frisking after removing hands from gloves and spreading contamination
- Moving fissile material in violation of criticality posting

- Management processes

- Application of insufficient resources leading to events (workers performing multiple jobs at the same time)

- Causal analysis

- Inadequate identification of causes of events and inappropriate use of hierarchy of controls (stopping root cause at the point the human interacts with the system)

- Corrective actions

- Did not control or correct known equipment deficiencies (site glass cloudy, poor ergonomics, highly contaminated rooms preventing verification of configuration management, degraded equipment requiring extra manipulations)

- Criticality safety

- Did not identify differences between as-built and design, resulting in an assumption there was a control to prevent water from entering the ventilation system



Unplanned High Radiation Area and Worker Dose

- **Contractor – Site - Facility**
 - Triad National Security, LLC
 - Los Alamos National Laboratory
 - Los Alamos Neutron Science Center
- **Conditions:**
 - On August 11, 2022, modifications were made to the linear accelerator's shielding
 - Resulted in an unplanned High Radiation Area (HRA) (dose rates up to 1.2 Roentgen (R)/hr)
 - Four employees received unplanned radiation dose
 - Highest dose was approximately 475 millirem (less than the 5,000 millirem occupational limit)



Unplanned High Radiation Area and Worker Dose

Outcome – Enforcement Letter

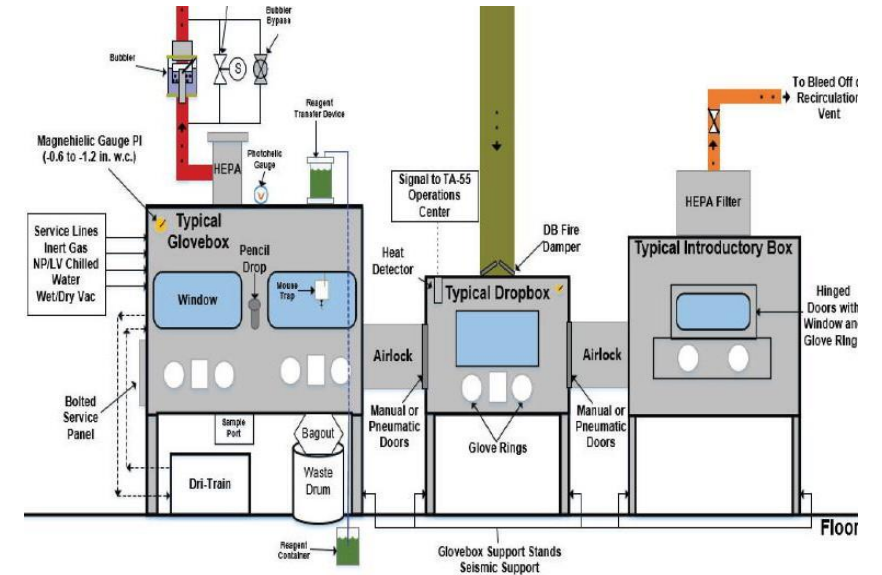


- **Enforcement's Concerns**
 - Radiological monitoring was not adequate to detect and document changes in radiological conditions
 - Potential for HRA was not recognized during work planning activities
 - Consequently, did not establish physical controls
 - Causal analysis did not evaluate potential weaknesses in safety management processes or in the management and oversight of radiological work.
 - Focus on worker performance may have biased the identified causal factors

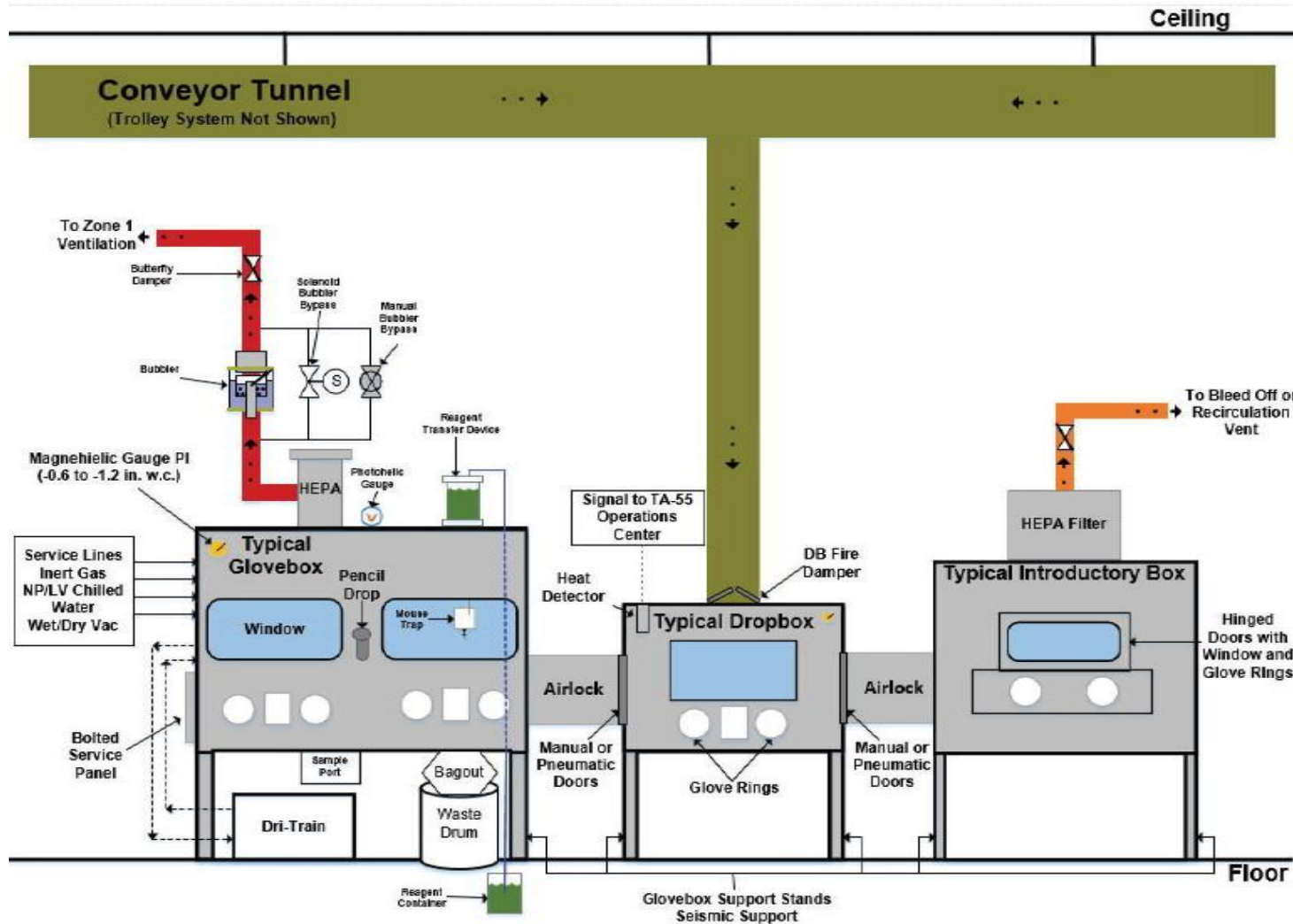


Plutonium Glovebox Release

- **Contractor – Site**
 - Triad National Security, LLC
 - Los Alamos National Laboratory
- **Conditions: Pu glovebox breach and release, January 7, 2022**
 - Multiple individuals contaminated; Continuous Air Monitors (CAMs) alarmed
 - Field indicators of potentially significant internal uptake
 - Multiple areas of interest with nuclear safety and radiological safety barriers



Plutonium Glovebox Release



Plutonium Glovebox Release Outcome - PNOV

- **Areas of Violation**
 - Hazard Identification and Control
 - Inadequate identification and implementation of controls to protect safety function
 - Unreviewed Safety Question Process
 - Failure to enter the PISA process for inability to meet safety function
 - Quality Improvement
 - Inadequacies in identifying and correcting issues before they resulted in an event
 - Inadequacies with prevent recurrence of similar issues
 - Work Processes
 - Failure to adequately implement work processes to maintain the glovebox's confinement safety function
 - Loss of configuration management resulting in failure of safety function
 - Occupational Radiation Protection
 - Failure to implement controls to prevent releases to the workplace atmosphere or control the inhalation of such materials



Unplanned Worker Radiation Exposure

- **Contractor - Site**
 - Fermi Research Alliance, LLC (FRA)
 - Fermi National Accelerator Laboratory
- **Conditions: Unplanned Worker exposure of 530 mrem**
 - Worker operating a Radiation Generating Device in an unposted radiation area
 - Expired memorandum for operation (RWP)
 - Workstation in line with the source (x-ray radiation)
 - Worker stopped checking his pocket dosimetry and recording his dose
 - Identified via quarterly dosimetry results months after completion of project

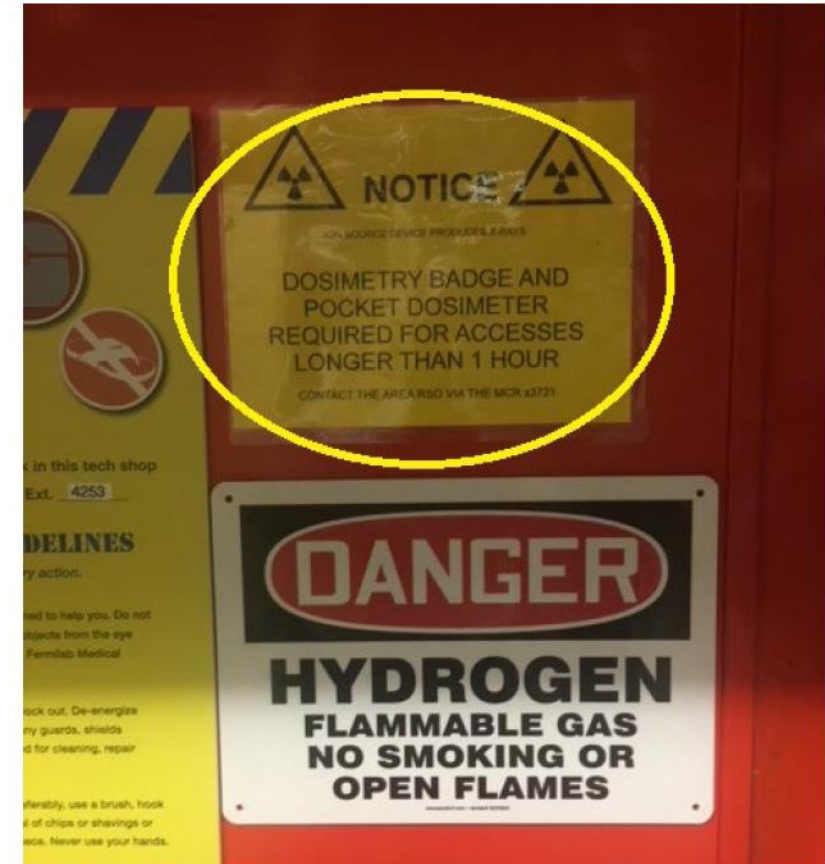
Unplanned Worker Radiation Exposure

Image of Workstation Set Up



The desk can be seen in line with the beam.

Image of Legacy Signage Posted on Door



Unplanned Worker Radiation Exposure Outcome – Consent Order

- **Areas of Concern:**
 - Radiological monitoring was not adequate to detect changes in radiological conditions and verify the effectiveness of engineered and administrative controls
 - Radiological postings were not adequate and conflicted with local operational guidance
 - Operational procedures were not commensurate with the radiological hazards and were expired
 - Measures to maintain exposure ALARA were not adequately developed or implemented

Allegations of Nuclear Safety Deficiencies

- **Contractor & Site**
 - Mid-America Conversion Services, LLC
 - Portsmouth Depleted Uranium Hexafluoride Conversion (DUF6) facilities
- **Conditions: Alleged Deficiencies (2019-2022)**
 - Training and qualifications
 - Quality improvement
 - Performance of work



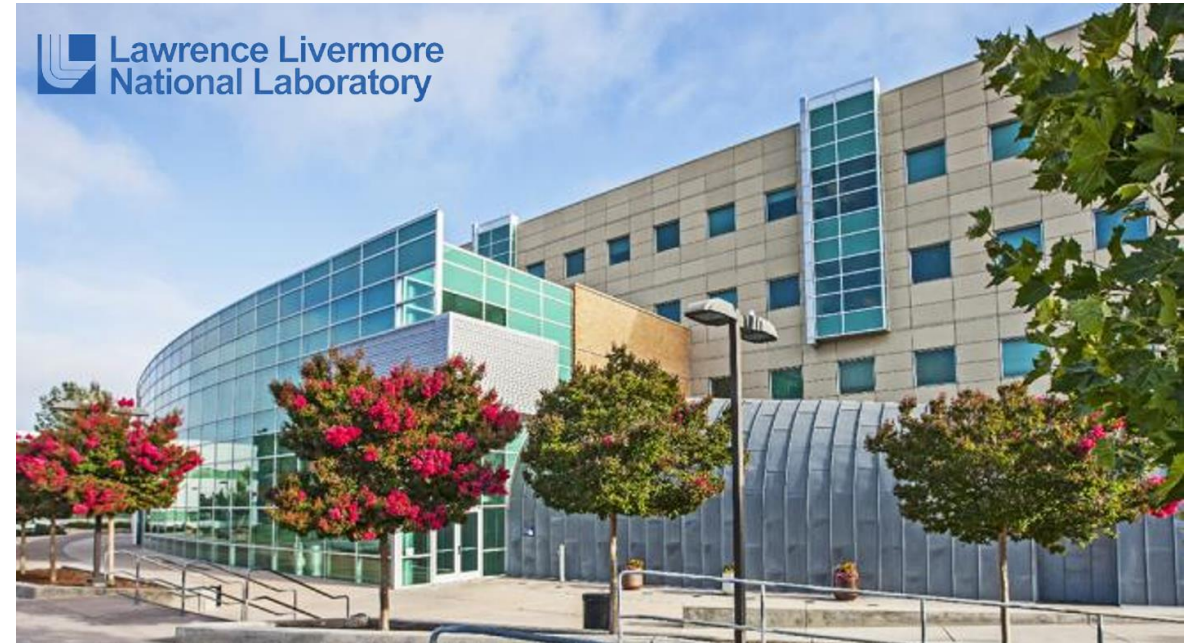
Loss of Multiple Criticality Controls During Removal of a Legacy Machine



- **Contractor – Site**
 - Consolidated Nuclear Security, LLC
 - Y-12 National Security Complex
- **Conditions: (April 14, 2023)**
 - No documented criticality controls available
 - Use of unapproved container
 - Sufficient mass of fissile material
 - Presence of unapproved materials
 - Weaknesses in procedures and compliance

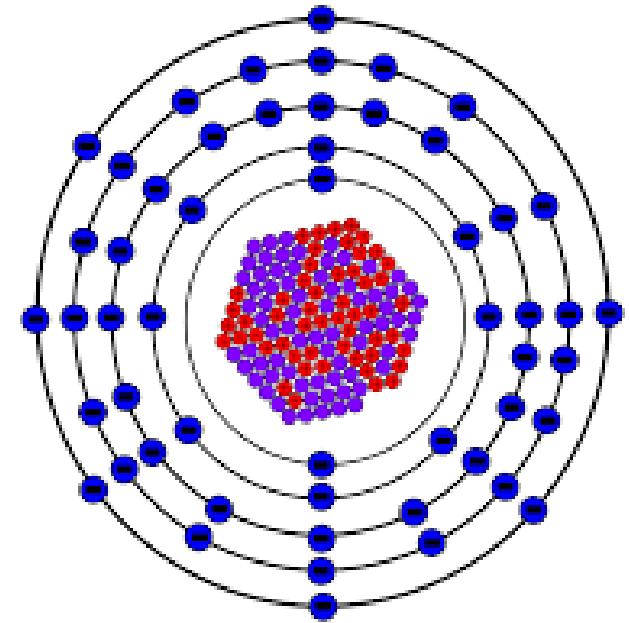
Quality Assurance Program Deficiencies

- **Contractor – Site**
 - Lawrence Livermore National Security, LLC (LLNS)
 - Lawrence Livermore National Laboratory
- **Conditions:**
 - LFO identified quality assurance discrepancies
 - Unevaluated supplier of SS SSCs
 - Duration over 10 years
 - Software quality assurance

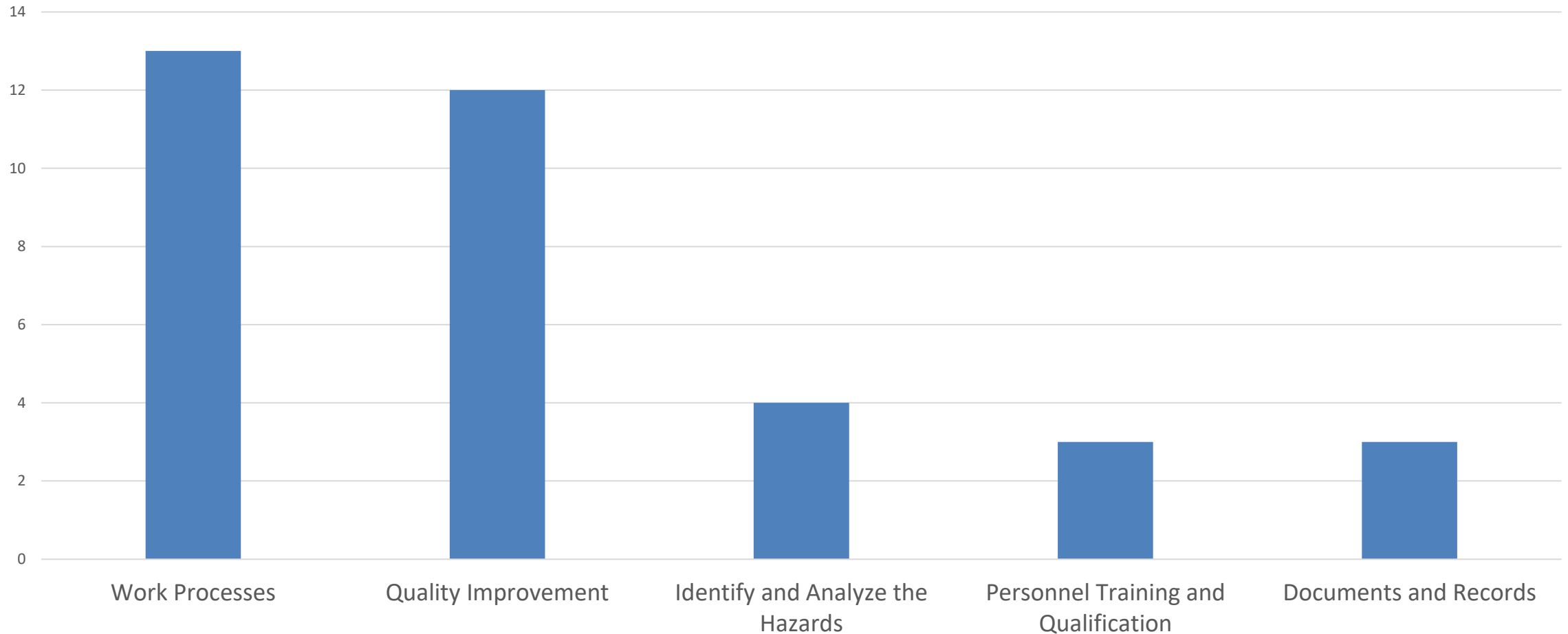


Loss of Contamination Control

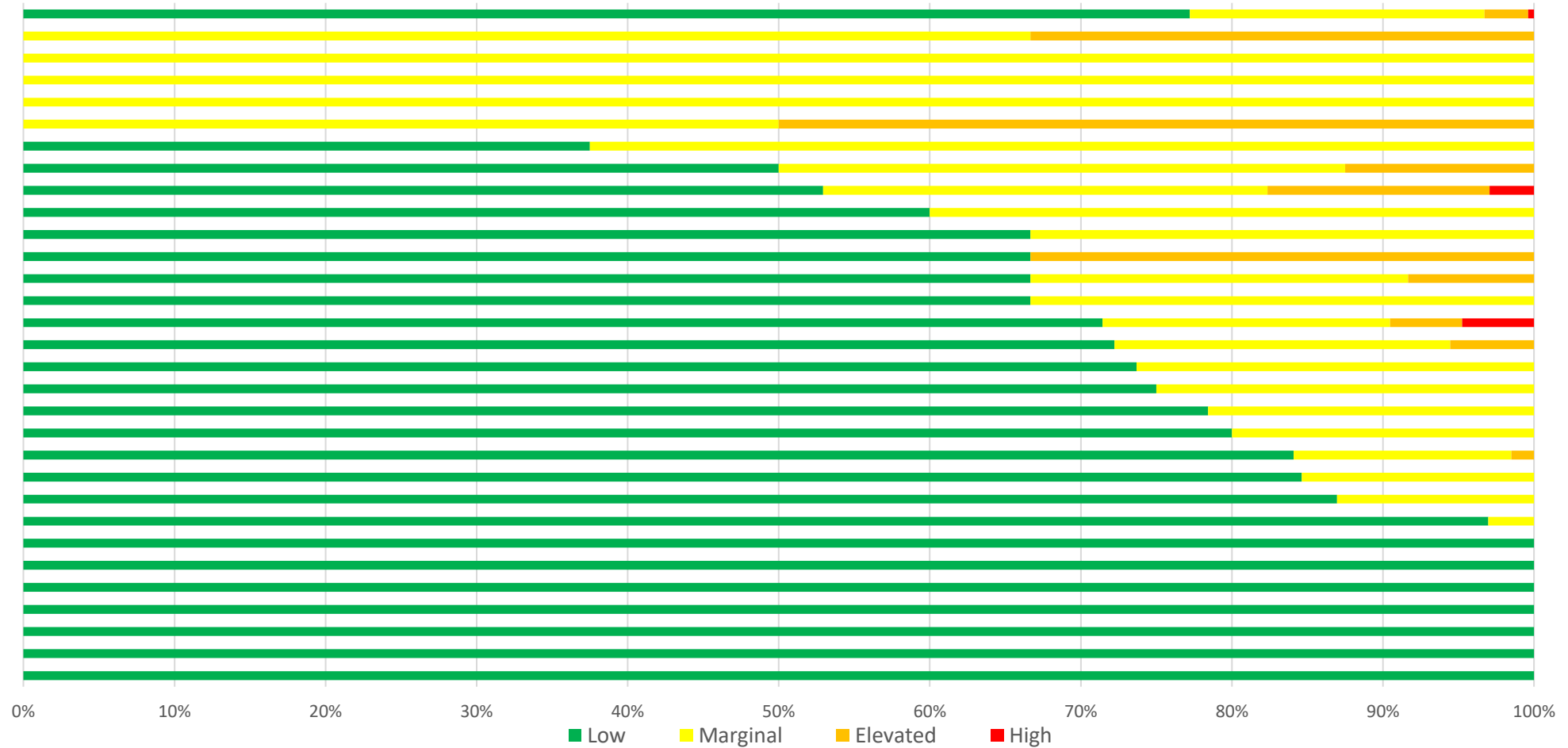
- **Contractor – Site**
 - Lawrence Livermore National Security, LLC (LLNS)
 - Lawrence Livermore National Laboratory
- **Conditions:**
 - Total Contamination
(10 CFR 835 limit 500 disintegrations per minute [DPM])
 - Personal items (offsite) – 400,000 DPM I-125
 - Work items (onsite) – 10,000 DPM I-125



Top Five Areas of Violation 2019-2024



NTS Significance Reporting by Contactor (normalized and anonymized)



Other Activities

- **Involvement in the DOE and Nuclear Communities**
 - American Nuclear Society
 - Executive Committee for Fuel Cycle and Waste Division
 - Chair of ANS 57.11 Integrated Safety Assessments for Nonreactor Nuclear Facilities working group
 - ANS 3.14 Process for Infrastructure Aging Management and Life Extension of Nonreactor Nuclear Facilities working group
 - ANS 58.16 Safety Categorization and Design Criteria for Nonreactor Nuclear Facilities
 - Health Physics Society

Other Activities

- **Involvement in the DOE and Nuclear Communities (continued)**
 - ASME Nuclear Quality Assurance
 - Assessment and Verification subcommittee
 - Software Quality Assurance subcommittee
 - Department of Energy
 - Technical Standards Program (DOE O 414.1E)
 - Directives Program
 - Energy Facility Contractors Group (EFCOG)
 - Quality Assurance/Integrated Safety Management subgroup
 - Worker Safety and Health subgroup (Health Physics)

Questions ?



LUNCH
11:30 – 1:00



Security Enforcement Program Update

Carrienne Zimmerman
Director
Office of Security Enforcement

Overview

- Security Enforcement Personnel Update
- Security Enforcement Activities Update
- Classified Information Security Incident Data

Security Enforcement Personnel Update

- Staffing:
 - Carrienne Zimmerman, Director
 - Charles Isreal, Enforcement Officer
 - Karen Sims, Enforcement Officer
 - Erin Newton, Contractor Enforcement Analyst/Safeguards and Security Information Management System (SSIMS) Support and Contractor Administrative Support
 - Linwood Livingston, Contractor Security Specialist Support

Security Enforcement Activities Update

- Fact-Finding Visit: National Technology and Engineering Solutions of Sandia, LLC at Sandia National Laboratory, NM – Improper Protection of Visually Classified Items – November 2021
 - Three similar security incidents involving the improper protection of visually classified items
 - Issues:
 - Similar IOSCs within the same Center
 - Processes and procedures for protecting visually classified items
 - Self-assessments
 - Causal analysis
 - Corrective actions
 - Outcome: **Enforcement Letter**



Security Enforcement Activities Update (cont'd)

- Enforcement Letter Issued: Battelle Energy Alliance at Idaho National Lab, ID – Improper Storage in a Non-Conforming Repository
 - November 2022
 - Improper storage and protection of classified matter
 - Issues:
 - Storage and protection of classified matter
 - Ineffective work planning and control
 - Outcome: **Enforcement Letter**



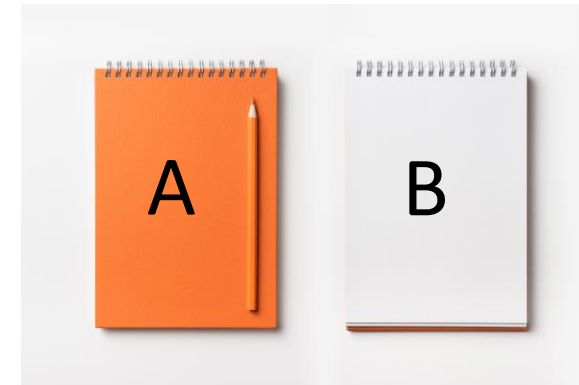
Security Enforcement Activities Update (cont'd)

- Fact-Finding Visit: National Technology and Engineering Solutions of Sandia, LLC at Sandia National Laboratory, NM – Unclassified Systems in SA with Prohibited Technology – January 2023
 - Multiple security incidents involving the introduction of unclassified systems with prohibited technologies enabled in security areas
 - Issues:
 - Similar recurring noncompliances
 - Issues management
 - Outcome: **Enforcement Letter**

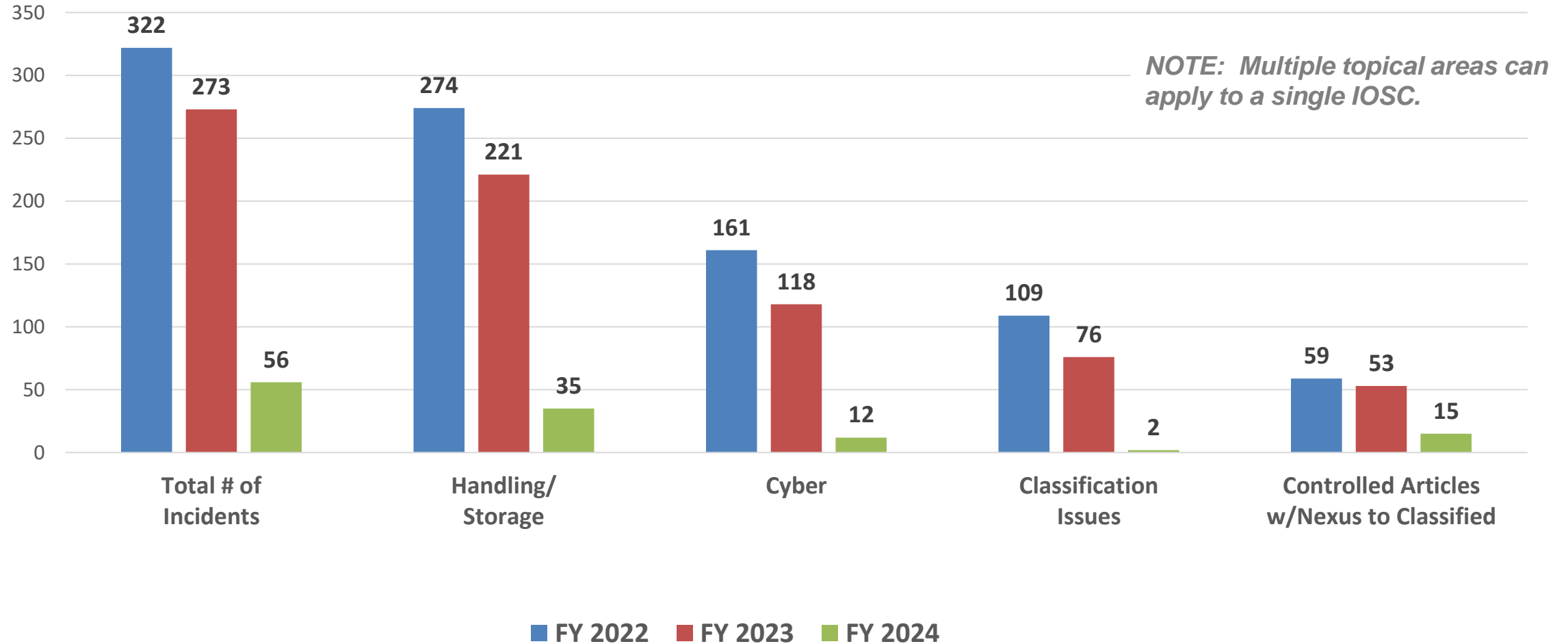


Security Enforcement Activities Update (cont'd)

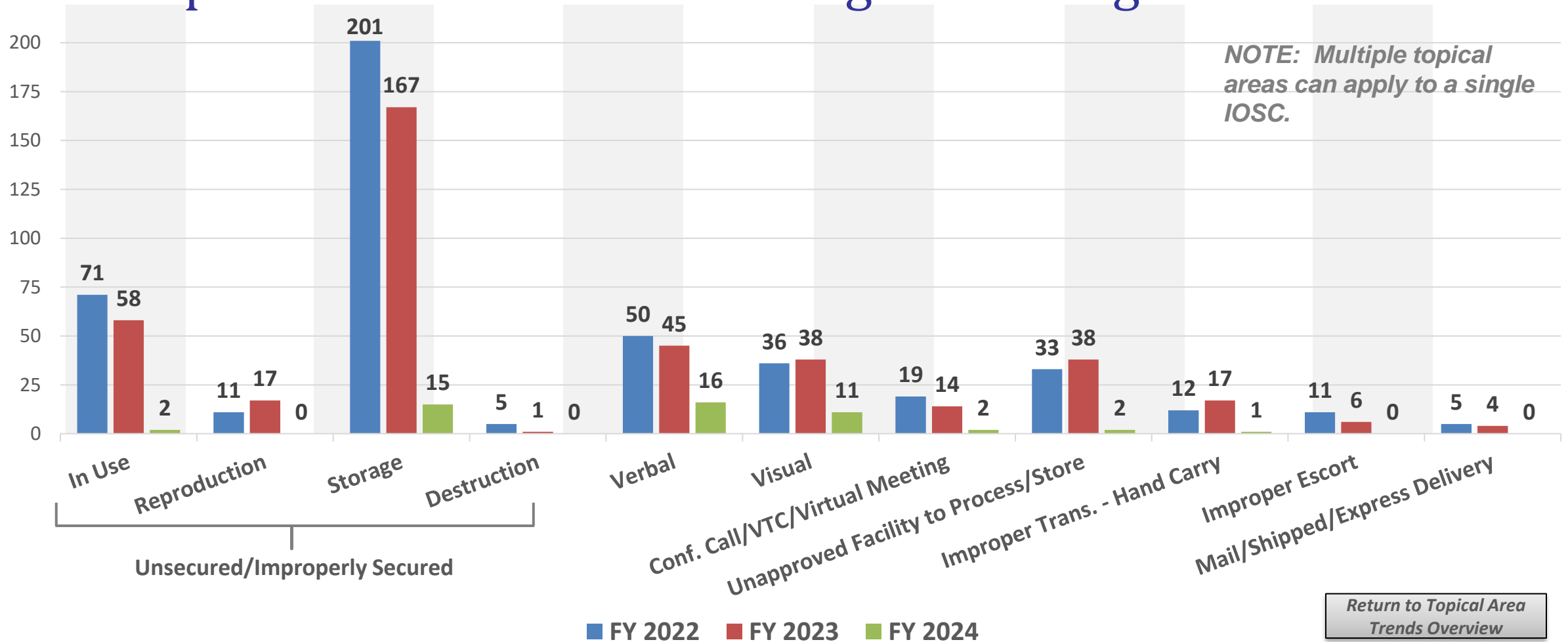
- Evaluation: Consolidated Nuclear Security, LLC at Y-12 National Security Complex, TN – Compromise/potential compromise of classified combinations and the handling and protection of classified information – October 2023
 - Multiple security incidents regarding:
 - Sharing of combinations
 - Validation of combination custodians
 - Issues:
 - Similar recurring noncompliances
 - Personnel level of awareness
 - Method/time for information personnel of combination changes
 - Outcome: **Enforcement Letter**



Classified Information Security IOSCs: Topical Area Trends

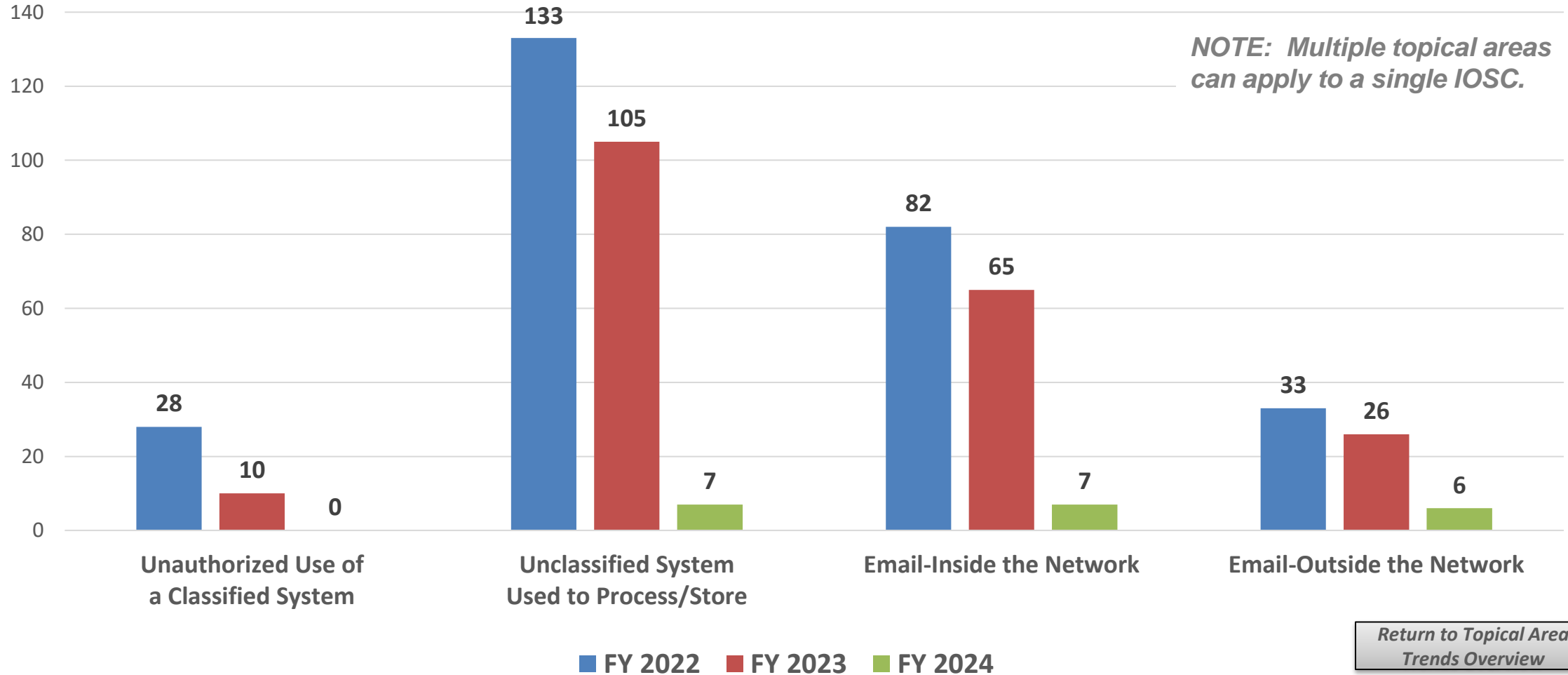


Classified Information Security IOSCs: Topical Area Trends – Handling and Storage Breakdown



[Return to Topical Area Trends Overview](#)

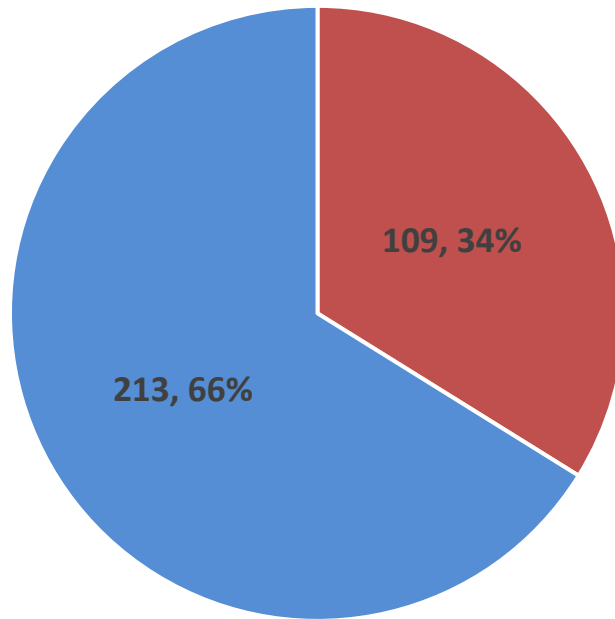
Classified Information Security IOSCs: Topical Area Trends – Cyber Breakdown



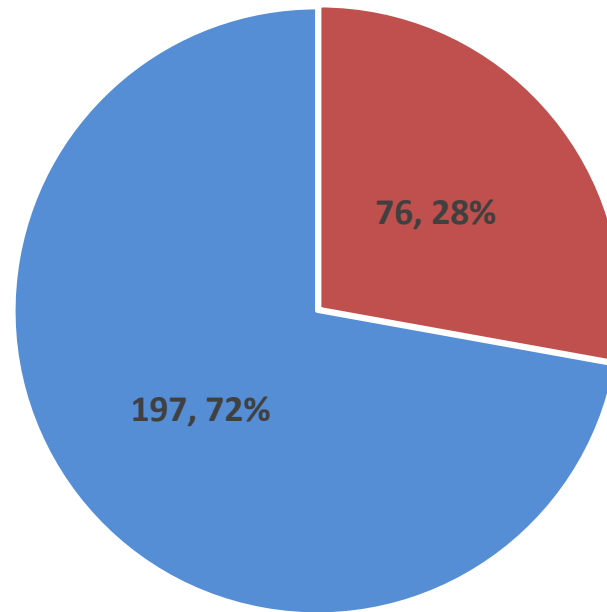
[Return to Topical Area Trends Overview](#)

Classified Information Security IOSCs: Topical Area Trends – Classification Issues Breakdown

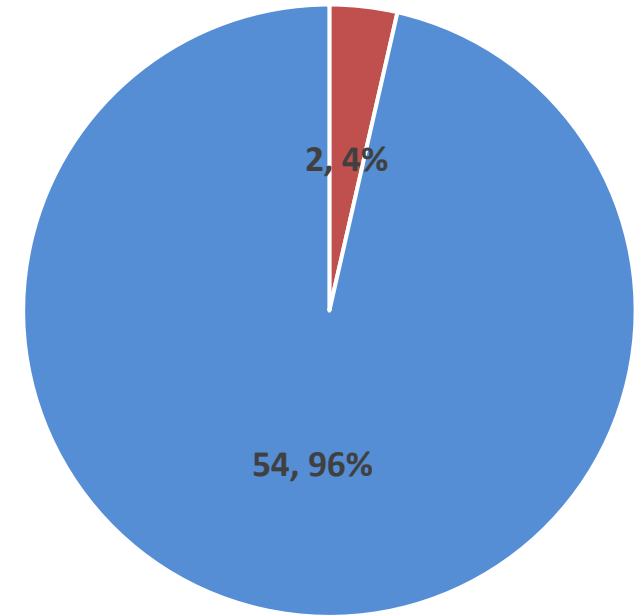
Total FY 2022 IOSCs: 322



Total FY 2023 IOSCs: 273

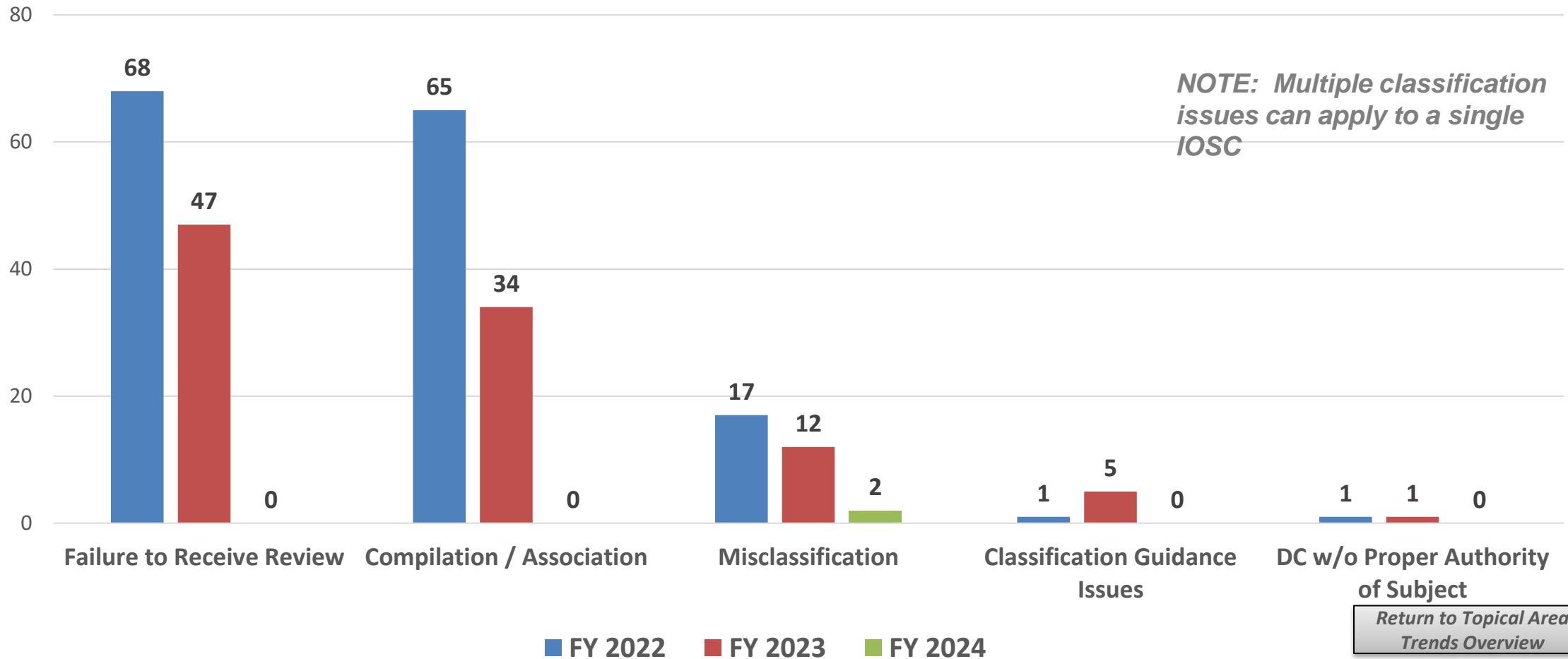


Total FY 2024 IOSCs: 56

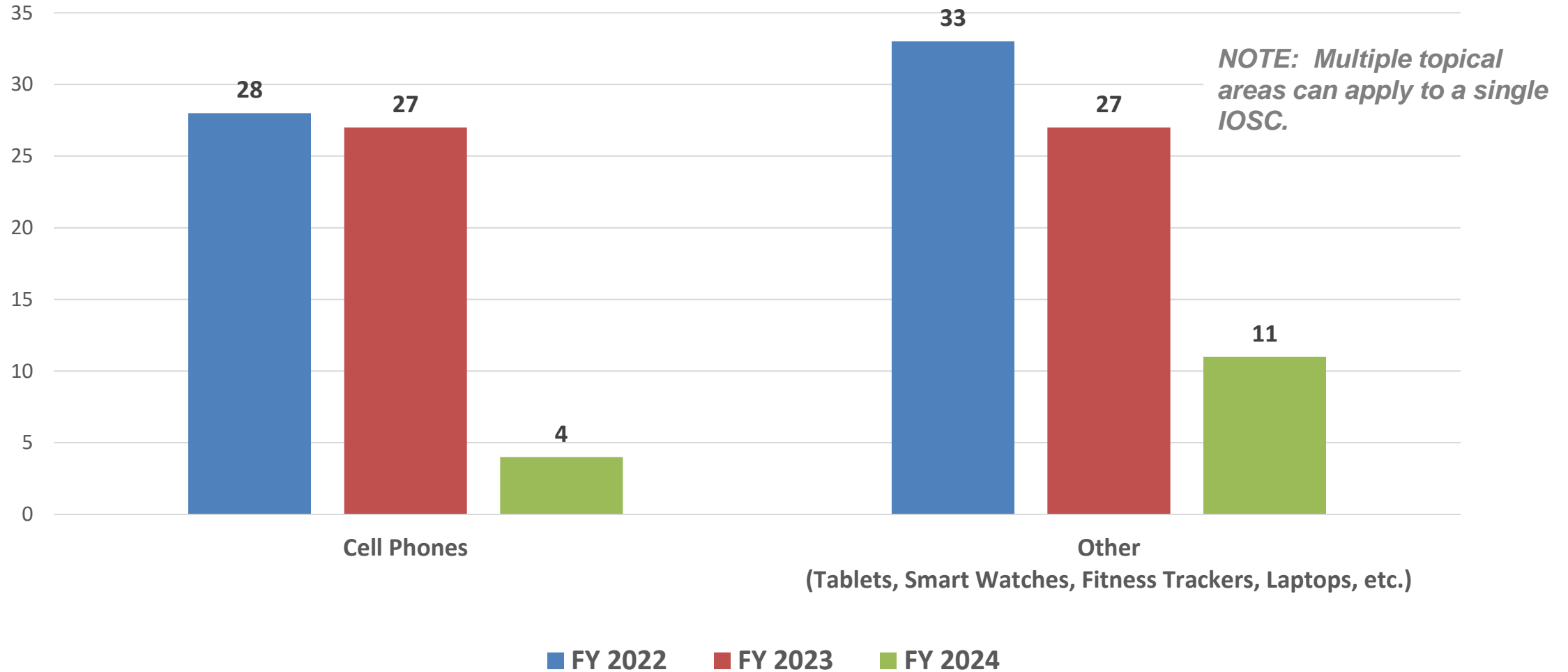


- IOSCs Involving Classification Issues
- IOSCs NOT Involving Classification Issues

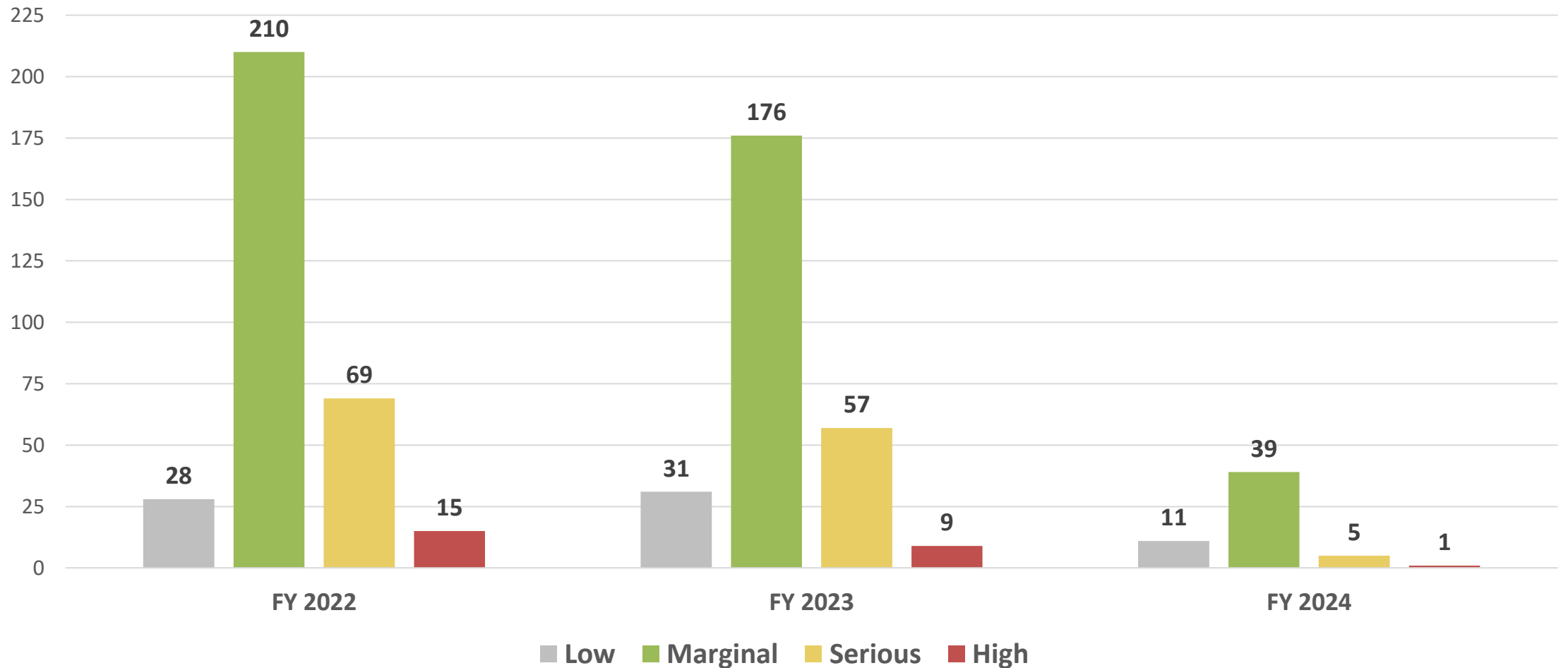
Classified Information Security IOSCs: Topical Area Trends – Classification Issues Breakdown (cont'd)



Classified Information Security IOSCs: Topical Area Trends – Controlled Articles Breakdown

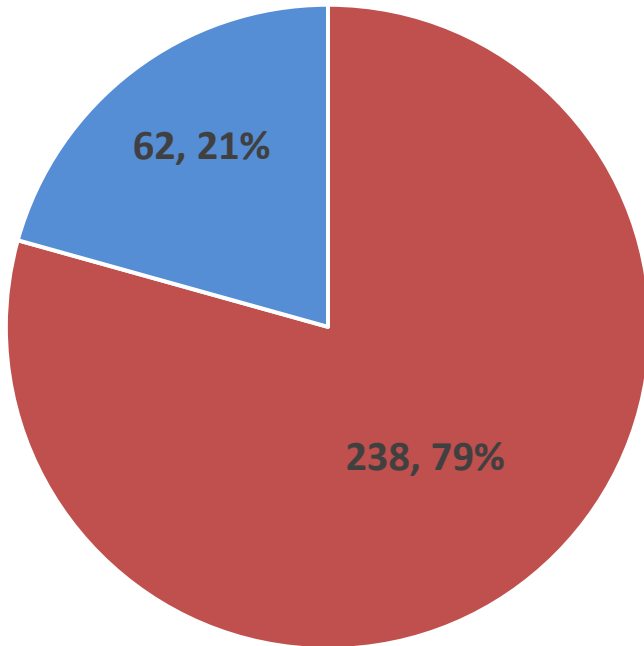


Classified Information Security IOSCs: Significance Determinations

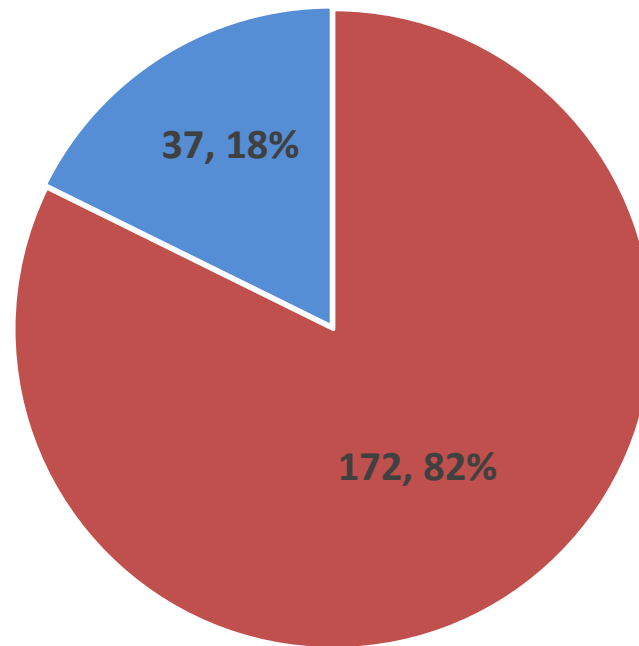


Classified Information Security IOSCs: Likelihood of Compromise

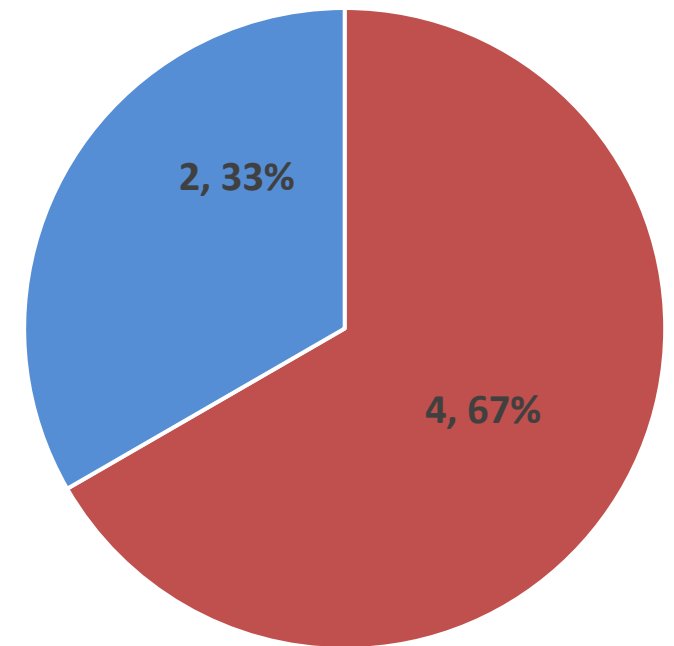
FY 2022
Closed IOSCs: 300



FY 2023
Closed IOSCs: 209

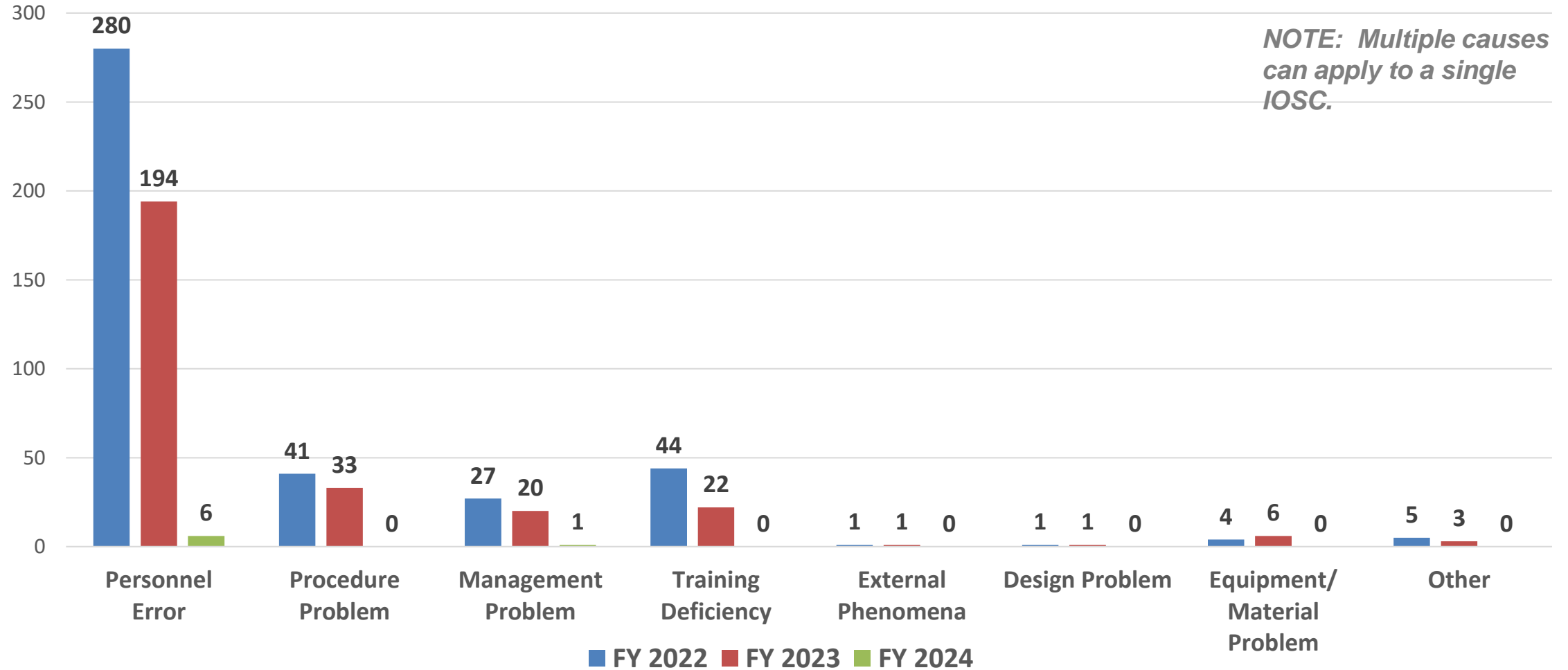


FY 2024
Closed IOSCs: 6

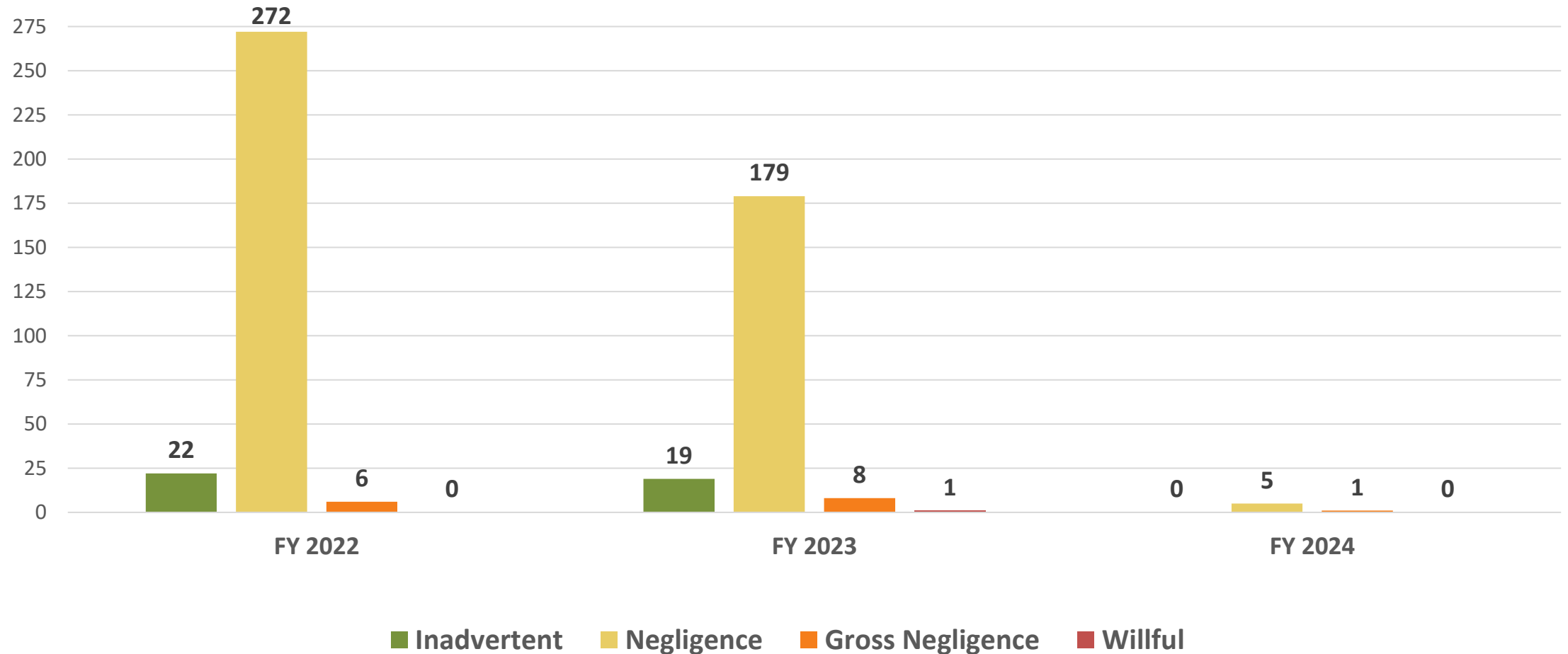


■ Actual or Potential Compromise ■ No Compromise

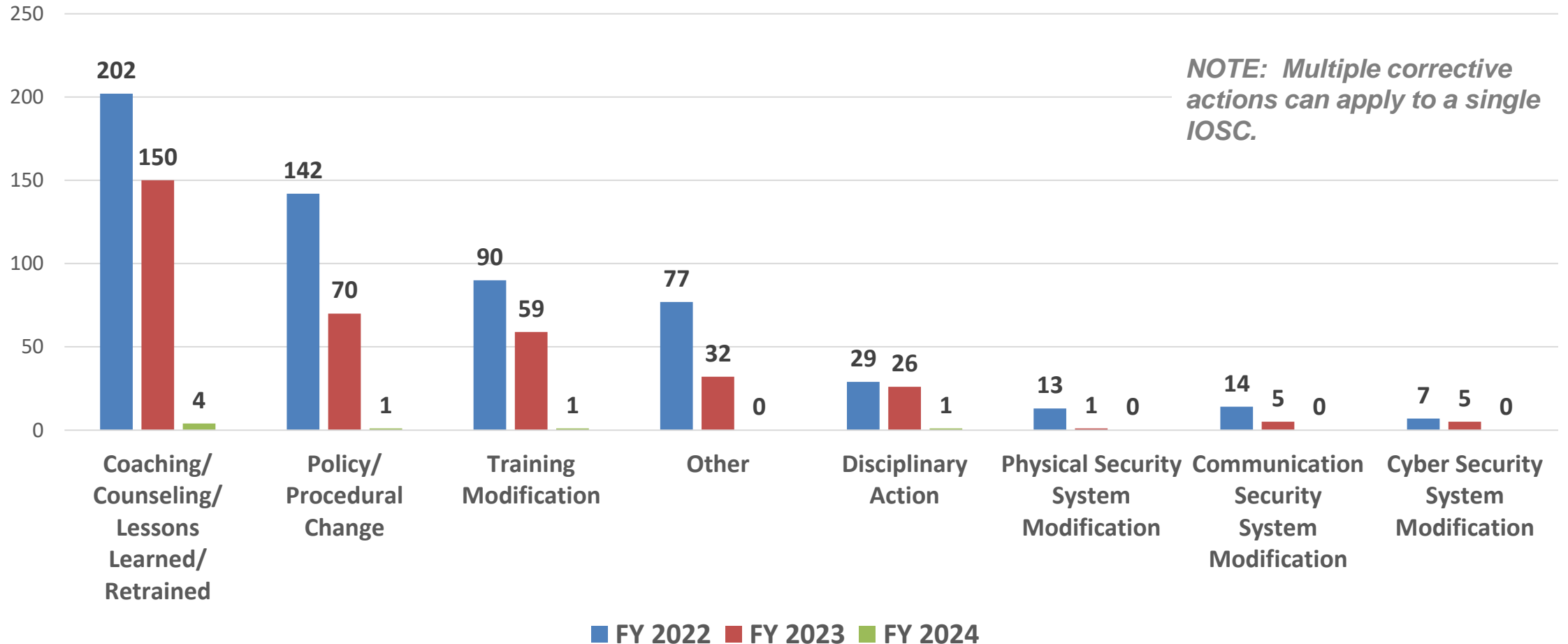
Classified Information Security IOSCs: Causes



Classified Information Security IOSCs: Characterizations



Classified Information Security IOSCs: Corrective Actions



Office of Security Enforcement Contact Information

- Carrienne Zimmerman, Director
carrienne.zimmerman@hq.doe.gov | 301-903-8996
- Charles Isreal, Enforcement Officer
charles.isreal@hq.doe.gov | 301-903-7458
- Karen Sims, Enforcement Officer
karen.sims@hq.doe.gov | 301-903-0244
- Linwood Livingston, Contractor Security Specialist Support
lin.livingston@hq.doe.gov
- Erin Newton, Contractor Enforcement Analyst/Safeguards and Security Information Management System (SSIMS) Support Contractor Administrative Support
erin.newton@hq.doe.gov

Questions?





EFGOG Regulatory & Enforcement Technical Subgroup News and Update

Kathy Brack

Enforcement Coordination

Kathy.brack@pxy12.doe.gov

RETSG Activities

- **Monthly (approximately) Virtual Meetings**
 - Opportunities to discuss questions or topics and share experience.
 - Include DOE Office of Enforcement when monthly meetings reveal topics best addressed by the customer.
- **Spring In-Person Meeting**
 - Share Lessons Learned.
- **Support EFGOG Safety Working Group Subcontractor Safety Task Team**
 - **Purpose:** Develop tools for DOE Prime Contractors to foster subcontractor safe work practices and a healthy subcontractor workforce supporting effective and efficient operations within the Department of Energy.
 - **Approach:** Gathering, evaluating, developing and sharing performance measures, best management practices, and lessons learned consistent with the principles and functions of Integrated Safety Management.

Steering Committee Membership

Co-chairs:

- Kathy Brack kathy.brack@pxy12.doe.gov 806-573-4099
- Barry Thom thomcb@nv.doe.gov 702-295-1601

Committee:

- Tamara Baldwin tamara.baldwin@srs.gov 803-952-7380
- Tracy Chance chancetd@ornl.gov 865-574-8430
- Heath Garrison heath.garrison@nrel.gov 303-384-7408
- Tamara Greenwood tgreenwood@lanl.gov 505-412-9947
- Mark Holowczak holowczak1@llnl.gov 925-4234522
- Opening

Questions?
&
Answers?



Accident Investigations

Stephen J. Wallace, PE, CSP, STSM
NNSA Office of Chief of Defense Nuclear Safety

Overview of AI Order

- DOE O 225.1B governs Accident Investigations
- Objectives of the AI Program
 - Implement a standardized, Department-wide, approach to conducting accident investigations
 - Assist line management in preventing recurrence
- Assist HQ element in determining if an AIB should be launched

Responsibilities

- **Head of HQ Element** reviews criteria and determines if an AI Board (AIB) is to be appointed, appoints board or provides rationale for no AIB (**Note: Relies on timely notification from the field**)
- **DOE EHSS** maintains policy, reviews reports, reviews rationale when AIB is not launched
- **Head of Field Element** provides support for AIB, establishes AI POC, may require contractor corrective action plans and conduct extent of condition
- **Contractors** support AIBs, respond to accidents, assist in collecting and preserving evidence, and develop CAPs

Criteria to Consider Appointing AIB

- **Human Effects Examples**

- Fatality; hospitalization >5 days; >3 employees lost workdays
- >2 times 10 CFR 835.202 occupational dose limits
- Uptake >2 times annual limit on intake (ALI)

- **Environmental Examples**

- Release of haz material >5X times reportable in 40 CFR 302
- Catastrophic release per 29 CFR 1910.119

- **Property Examples**

- Estimated cost equal to or greater than \$2.5 million for cleaning, decontaminating, renovating, replacing, or rehabilitating property
- Unplanned nuclear criticality

- **Other Effects**

- Secretary or Dep Secretary concern

Timely Notification to HQ

- AIB determination requires on timely notification to HQ element (NA-ESH-1, ESH-ODs, AI HQ POC, Site POC)
- ESH staff confers with Field Office staff
- If it is unclear if it will meet criteria, error on the side of communicating (e.g., serious injury but unclear if hospital stay will be >5 days)

Types of Investigations

- Contractor investigation
- Contractor led, fed participation
- Hybrid (Fed + Contractor)
- Formal AIB

What to Expect During an AIB

Proactive Program Management through
Policy, Guidance, Training, Analysis, Follow Up



Preservation of Evidence

HQ Element Determination

HQ Element Appoints Board

Board Controls the Scene
Analysis of the Facts
Root Cause Determination
Judgments of Need
Report Distribution

Corrective Actions and Lessons Learned

Challenges

- Lack of timely notification to HQ Element
- Personal condition is a factor
(Definition of accident: Accidents are unexpected events or occurrences that result in unwanted or undesirable outcomes. - DOE-HDBK-1208-2012)
- Annual limit on intake (ALI)
(ALIs for wounds should use coefficients in consensus or referred report)
- Uncertainty regarding timeframe (e.g., >5 days???)

Enforcement Program

- Generally, enforcement investigation will occur after a formal Accident Investigation Board
- Enforcement can use results
- A well-investigated incident with follow-up actions considered during enforcement

Questions and Comments

2024 DOE Safety and Security Enforcement Workshop

Defense Nuclear Facility Safety Board Perspectives

Joyce Connery

Chair

Defense Nuclear Facility Board

2024 DOE Safety and Security Enforcement Workshop

3:00 – 3:30

Break

Case Studies | Worker Safety and Health

Room 6339

3:30 – 5:00

Case Studies | Nuclear Safety

Room 6375

Case Studies | Information Security

Room 6510

EA Staff Site Assignments

DOE NNSA Site	Program Office	EA-11	EA-12	EA-13
Ames Laboratory	SC	Lori Gray	Joseph DeMers	
Argonne National Laboratory	SC	Andrea Reid	Margaret Kotzalas	Karen Sims
Brookhaven National Laboratory	SC	Jason Capriotti	Joseph DeMers	Karen Sims
DOE Headquarters	HQ	Stanley Dutko		Charles Isreal
East Tennessee Technology Park	EM	Andrea Reid	Joseph DeMers	
EM Consolidated Business Center <i>formerly</i> SPRU	EM	Stanley Dutko	Christian Palay	Charles Isreal
Fermi National Laboratory	SC	Scott Wenzholz	Margaret Kotzalas	
Hanford - Richland	EM	Stanley Dutko	Christian Palay	Karen Sims
Hanford - River Protection	EM	Stanley Dutko	Christian Palay	Karen Sims
Idaho Cleanup Project	EM	Scott Wenzholz	Margaret Kotzalas	
Idaho National Laboratory	NE	Scott Wenzholz	Christian Palay	Charles Isreal
Kansas City National Security Campus	NA	Jason Capriotti	Christian Palay	Karen Sims
Lawrence Berkeley National Laboratory	NA	Robert Smith	Alayna Pearson	
Lawrence Livermore National Laboratory	NA	Scott Wenzholz	Margaret Kotzalas	Charles Isreal
Legacy Management	LM	Andrea Reid		
Los Alamos National Laboratory	NA	Jason Capriotti	Margaret Kotzalas	Karen Sims
Moab UMTRA Project	EM	Lori Gray	Alayna Pearson	
National Renewable Energy Laboratory	EERE	Andrea Reid		
Nevada National Security Sites	NA	Stanley Dutko	Christian Palay	Charles Isreal
Oak Ridge National Laboratory	EM/SC	Andrea Reid	Christian Palay	Karen Sims
Office of Secure Transportation	NA	Stanley Dutko	Joseph DeMers	Charles Isreal
Pacific Northwest National Laboratory	SC	Lori Gray	Alayna Pearson	Karen Sims
Paducah Paducah Gaseous Diffusion Plant	EM	Robert Smith	Margaret Kotzalas	Charles Isreal
Portsmouth Gaseous Diffusion Plant	EM	Robert Smith	Margaret Kotzalas	Charles Isreal
Pantex Plant	NA	Jason Capriotti	Joseph DeMers	Charles Isreal
Princeton Plasma Physics Laboratory	SC	Robert Smith	Joseph DeMers	
Sandia National Laboratories	NA	Lori Gray	Joseph DeMers	Karen Sims
Savannah River Site	EM/SC	Scott Wenzholz	Alayna Pearson	Charles Isreal
SLAC National Accelerator Laboratory	SC	Robert Smith	Alayna Pearson	
Southwestern Power Administration	SWPA	Stanley Dutko		
Thomas Jefferson National Acc. Laboratory	SC	Stanley Dutko	Christian Palay	
Waste Isolation Pilot Plant	EM	Lori Gray	Joseph DeMers	Charles Isreal
West Valley Demonstration Project	EM	Stanley Dutko	Margaret Kotzalas	
Y-12 National Security Complex	NA	Jason Capriotti	Alayna Pearson	Charles Isreal
Yucca Mountain Project Office		Scott Wenzholz		